Johns Hopkins

MAGAZINE

"The Devil was having wife trouble"

"HERE I AM, twenty-four years old and what have I done?" he had once written. But he was 53, and his face, like his indomitable will, had become seared and toughened by years of Arctic struggle before he reached his ultimate goal.

On December 15, 1909, Robert E. Peary finally stood where no man had ever set foot: North latitude 90°, longitude 0°. That day, he planted the American flag on the North Pole.

His return, afterward, to his base camp was so uneventful that one of his Eskimos explained it by saying the Devil must either have been asleep or having trouble with his wife.

Actually, good luck of that sort was a rarity to Peary. Enduring intense hardships, he had failed six times before to reach the Pole, but he never gave up. He lived all his life by his personal motto: *I shall find a way or make one.*

Peary's was a motto Americans find easy to understand. In fact, it typifies the practical "strike-out-for-yourself" spirit of the 160 million American citizens who stand behind U. S. Series E Savings Bonds. Perhaps that's why these Bonds are among the finest investments in the world today.

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THE Johns Hopkins MAGAZINE

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The Cover

The exuberance of the cheerleaders on this month's cover reflects, to a great degree, our own feeling of pleasure at opening up shop for Volume VII of The Johns Hopkins Magazine. It also reflects the artist's own enthusiasm after several weeks of documenting the autumn athletic scene. Of this there is more evidence beginning on page 8. The colors, should anyone have missed the point, are those of the Hopkins team.

DRAWING BY AARON SOPHER

VOLUME VII **October, 1955** NUMBER 1

In This Issue

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The Navy removes more wraps from a deadly guided missile developed at the University's Applied Physics Laboratory. Here are spectacular photographs of it in action.

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As residents are well aware, more and more big storms are roaring out of the south to smash this country's East Coast. An expert analyzes their origins and travels.

FOOTBALL SKETCHBOOK ..... *Aaron Sopher* 8

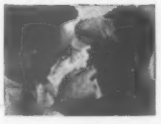
Pennants! Cheerleaders! Bonfires! Chrysanthemums! Fall is here and, with it, the great autumn game on brisk Saturday afternoons. This is what it looks like.

OUR CHOICES IN SOUTH ASIA .... *P. Gordon Walker* 10

In this seething part of the world, communism and the West have much at stake. A distinguished British observer looks at the problem and possible solutions to it.

PHYSICAL EXAMINATION 12

Using four basic techniques, the physician is able to discover many things about his patient's condition. In pictures, the first in a series on how diagnoses are made.



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EDITOR'S NOTES
AN INFORMAL REPORT

LIKE all publications, we do our best to stay, as the expression goes, on top of the news. This is sometimes a tricky business for magazines like ours, whose contents must be prepared nearly two months before an issue will reach the hands of its readers. A lot can happen in two months, so to make our material newsworthy, a fair amount of crystal-gazing must figure in our editorial procedures, coupled with the reasonable certainty that some things are bound to be happening when the issue finally comes out. Christmas, for instance, hasn't let us down yet; there, every December, it is.

Well, this month, in our effort to stay atop the news, we find the news atop *us*. In midsummer, anticipating the presence of the hurricane season in September and October, we asked Prof. George S. Benton, an expert on such phenomena, to prepare an article for us. As we write, the article has just come in. "Blown in" might be a better way of putting it.

Outside, the wind has reached gale force. The rain is pounding so hard that we can barely see the nearest tree: it is leaning at an angle of forty-five degrees. The windows are leaking—nothing could keep out *this* rain—and when we walk across our office floor, we squish. Above the noise of the storm, we hear a strange crackling sound. (Excuse us a minute while we try to find its source.)

There it is: a giant oak has crashed to the ground, blocking our escape.

It is pleasant to be back in business again after our three-month summer recess. Even if it does mean that we are in the down-blow-the-oak-trees season, we're happy fall is here.

Some people find fall a sad season, they say, because it signifies that the year is dying. The show that the foliage puts on, the blueness of the sky that is unlike the blueness of any other season, all the other glories of fall make them melancholy; the year, they mourn, is dying.

Cheer up!

Even if things *were* dying (and the trees certainly are not; they're just bedding down for a while), it would be a grand, an exhilarating, a worth-imitating last fling.

Did we hear someone in the audience ask for advice on how to run a good hotel? You have come to the right place, sir; we have the answer right here.

To endear yourself to your patrons, you must make an investment of around ten cents per room. Too big? You would think so, in most hotels. They sink their money in potted philodendrons, bad reproductions of Utrillo paintings, and flowery drapes. None of these contributes much to the guest's enjoyment of his stay. But for ten cents, a thin dime....

We speak, sir, of a washcloth. In our time, we have stayed in hundreds of hotel rooms: big hotel rooms, little hotel rooms. Not more than five have had washcloths. There have been, on occasion, baskets of fruit with a card from the manager telling us how much he hoped we'd enjoy our stay. There have been television sets (big-screen), wall-to-wall carpets, music by Muzak, free postal cards and Western Union blanks, and chummy notices under the plate glass on the bureau telling us how the hotel would appreciate it, pal, if you wouldn't smoke in bed. But not more than five times has there been a washcloth in the bathroom. Where there has been, the management could have omitted all the rest of it; we were already sold on the place, happy in the knowledge that here, at last, was a hotelkeeper who knew not only how to keep a hotel but how to keep his guest's (and presumably his own) face clean.

We have just come back from a trip that took us to three hotels that were washclothless. As if to compound our disgruntlement (we know there is no such word in Webster's, but when one

has been without a washcloth for two weeks, one is deep in disgruntlement, Webster's or nay), two of the hotels had radios which, before they'd even deliver something so routine as five minutes of the late Associated Press news, required that the guest deposit a quarter in a slot. In one case we were paying ten dollars a day for the room; in the other, nine-fifty. In both, for a measly quarter, disgruntlement.

In each room there was the usual palaver, on little cards, about the lengths to which the hotel had gone to insure the pleasantness of our stay. "We trust you will come to consider our hotel your Home Away From Home," one said.

Not us! Stop by our home someday, we were tempted to tell the manager. Turn on our radio. It doesn't always work, but at least we let you listen to it free.

For your coin, you're entitled to listen to the machine for an hour. Usually we tune in for the news—five minutes of it. This isn't too bad, we told ourselves the first time, once we had got over the first shock. Twenty-five cents, twelve news broadcasts—thirteen, maybe, if you hop to it and turn off the commercials.

We found it doesn't work that way. You must take your sixty minutes consecutively. If you turn off the radio, figuring you still have fifty-five minutes in the bank, the timing mechanism keeps ticking, and eleven-twelfths of an hour go tinkling down the drain.

We've tried everything; you can't beat the system. We have even crawled under the bed and unplugged the radio from the wall, thinking that might shut the timer off. No go.

This makes us sore. It's not just the principle of the thing; it's that quarter.

Note from a collegiate reader in Hanover, New Hampshire, tells us how much he liked our June cover picture of a rubber-suited scientist about to take a plunge into the Chesapeake Bay. Why did he like it? "Because it looks just like a seagoing Dartmouth Indian," he writes.

DREAM

From time to time we dream what we suspect is the Universal Dream:

How pleasant it would be if we could go through life so well heeled that we needn't make painful compromises on account of money.

The dream titillates us again as we lay plans for another volume of this magazine: how, if our subscriptions could be increased by ten thousand (or twenty, or thirty), we could not only fight back against our rising costs but also bring to our readers many fine things we cannot now afford.

Into nearly every copy of this issue, we have bound a subscription card to make it easy for you to renew your subscription or —if you are not now a subscriber—to enter a new one. We hope you will send it in.

Since this is a non-profit publication (which simply means that every dollar we receive goes into the magazine and hence back to the reader who sent the dollar in), we can make a gilt-edged guarantee:

Your investment will yield the magnificent return of exactly one hundred per cent.

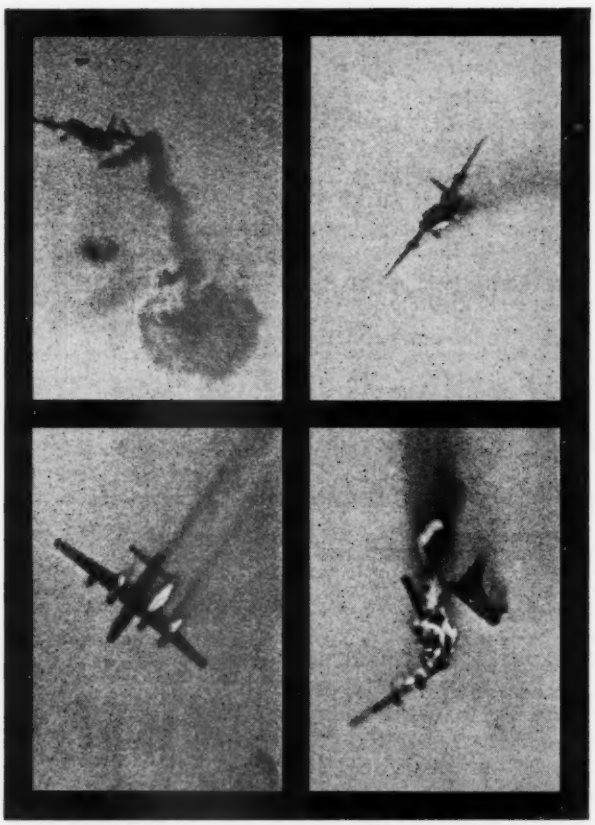
Please mail the card today!

THE PUBLISHER

Night Shoot

A 'TERRIER' SOARS AT SEA

THE U. S. Navy recently removed more wraps from its deadly anti-aircraft guided missile, *Terrier*, and the spectacular pictures on these pages are one result. Developed by the Johns Hopkins University's Applied Physics Laboratory, the rocket-propelled *Terrier* is being assigned to the Navy's first two guided-missile cruisers and, because it is easily adaptable to amphibious operations, it has become the Marine Corps' first anti-aircraft guided missile, also. *At right*, one *Terrier* is launched as three others stand poised on deck.

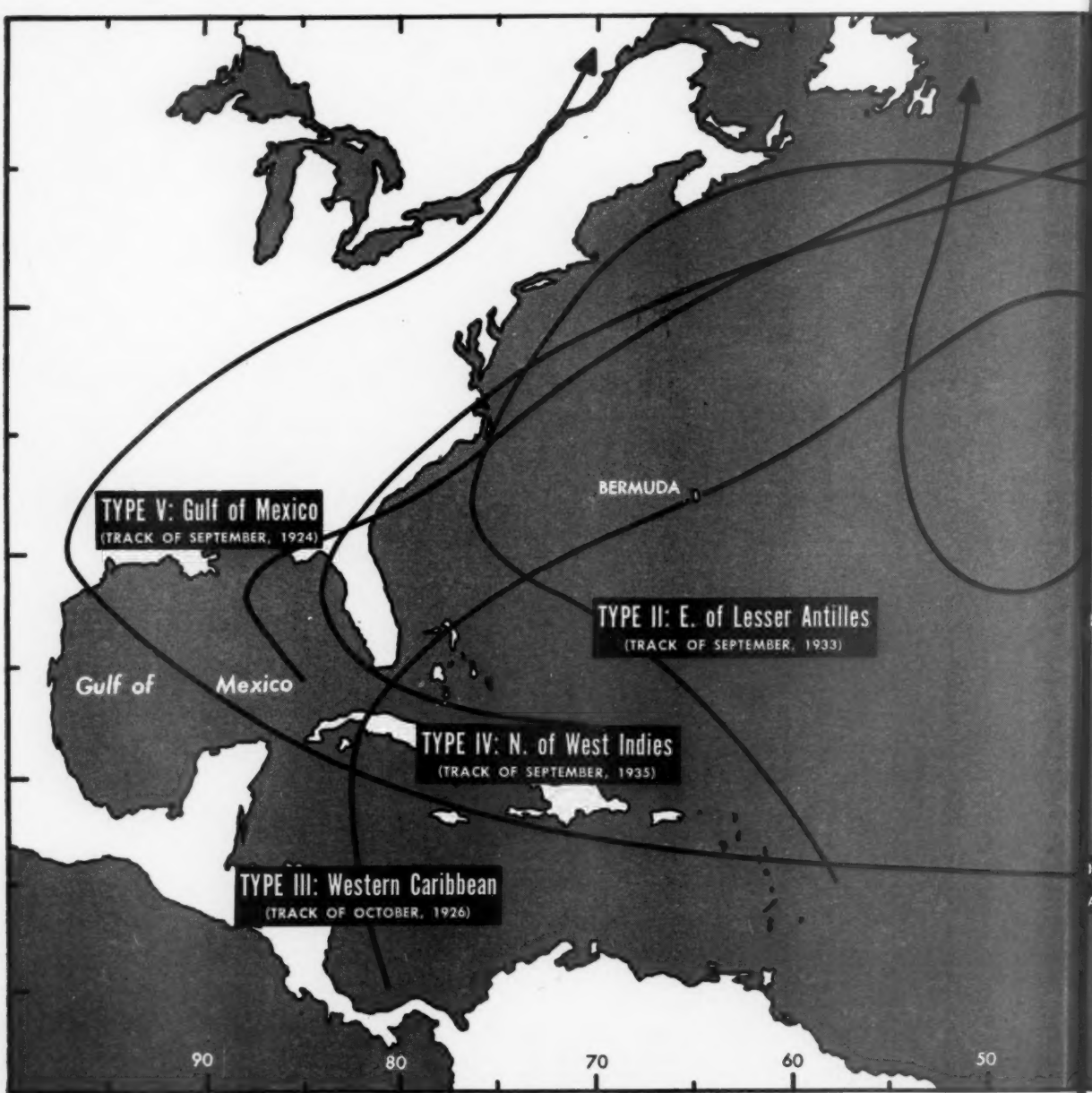


The kill: the Navy's supersonic anti-aircraft guided missile, *Terrier*, disintegrates its target aircraft, a P4Y-2X drone.

OFFICIAL U. S. NAVY PHOTOS

MORE HURRICANES I

The weather holds many fascinations. One of its most destructive ph



Five typical hurricane tracks: the storms' birthplaces and travels

ES IN YOUR FUTURE

tive phenomena also is one of the most interesting and mystifying

By GEORGE S. BENTON

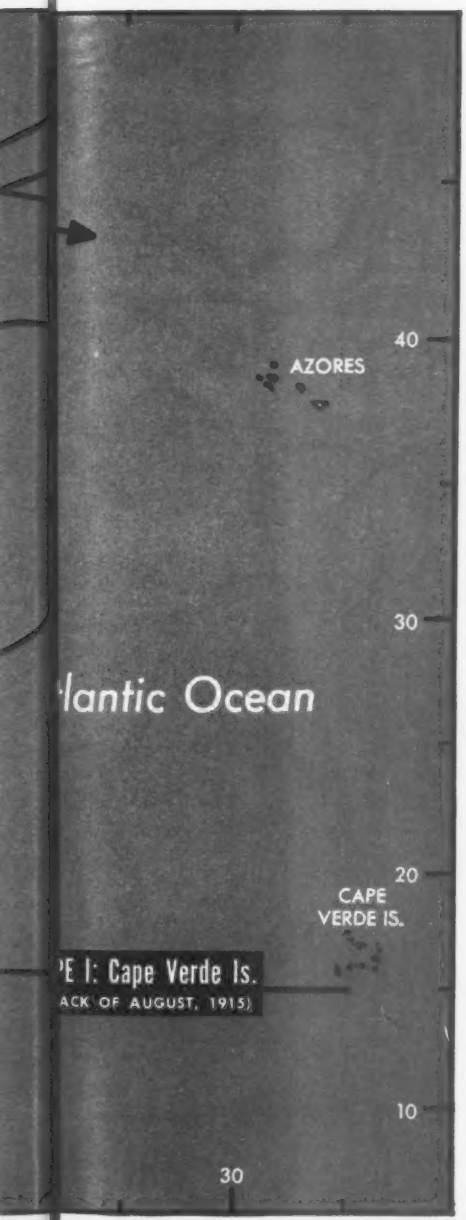
METEOROLOGY is a science; and meteorologists are not fortune tellers. But it is safe to say that if you are a resident of the United States, and if you live east of the Appalachians, there are more hurricanes in yourfuture. The name may be Cora, or Florence, or Katherine; you may rendezvous at Ocean City in 1956, or in New York in 1958. She may be a blowsy old wench from Cape Verde, grown fat and ugly on her long trek across the Atlantic; or she may be a rampaging young upstart from Trinidad, sleek and venomous in her concentrated fury. But there are more hurricanes in your future.

Chances are that your meeting will provide only a few days of excitement, a stimulating memory. Yet hurricanes are perverse and dangerous creatures. She may spoil your vacation, isolating you for days at a coastal resort; or she may strike while you are at home, leaving you fuming and quite literally powerless. There's not much you can do to prevent such annoyances. But by learning something about the ways and whims of hurricanes you can minimize any inconveniences and be almost certain to escape serious injury.

The first thing to remember is that if you live anywhere on the east coast of the United States, you now live in hurricane country. Hurricanes are born and nurtured over tropical oceans, yet when they have reached a vigorous maturity they usually swing poleward into middle latitudes. Prior to the 1930's the Northeastern States seldom felt their full fury. During the nineteenth century only six storms of tropical origin were recorded that "seriously affected the New England States." (Since New England is affected in a minor way by many dying hurricanes moving northward over land, it becomes a subjective matter to evaluate the number of "serious" storms. The figure "six" is taken from a 1938 article by the U.S. Weather Bureau hurricane expert, I. R. Tannehill.)

But hurricane paths have been changing in recent years. The record of the entire nineteenth century has already been equaled or exceeded in the last twenty years—a point which Carol and Edna brought forcefully to our attention in 1954. And what is true of New England is probably also true of the Middle Atlantic States.

Continued on page 29



MAP BY RICHARD HSIEH

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ROBERT M. MOTTAR

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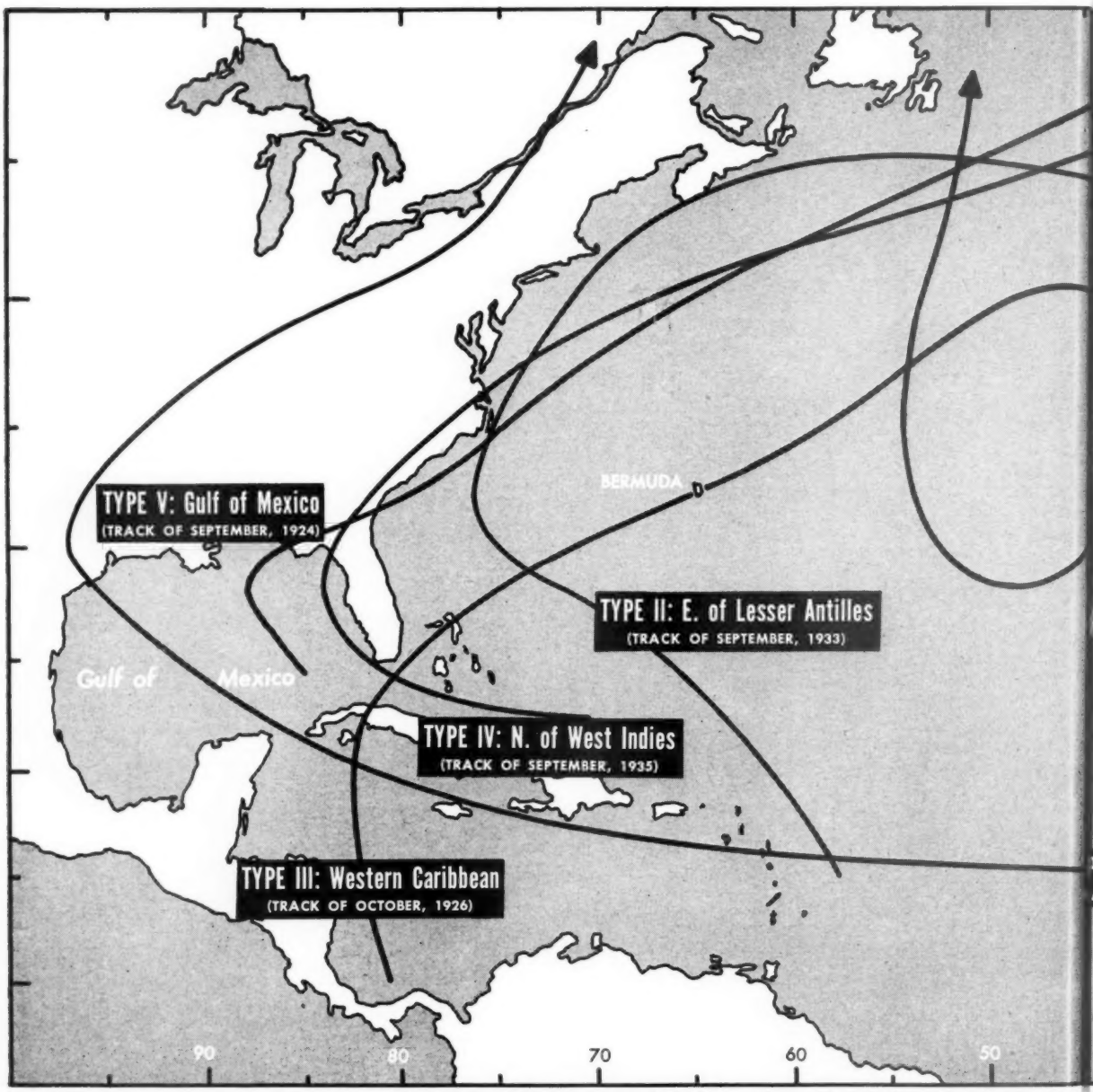

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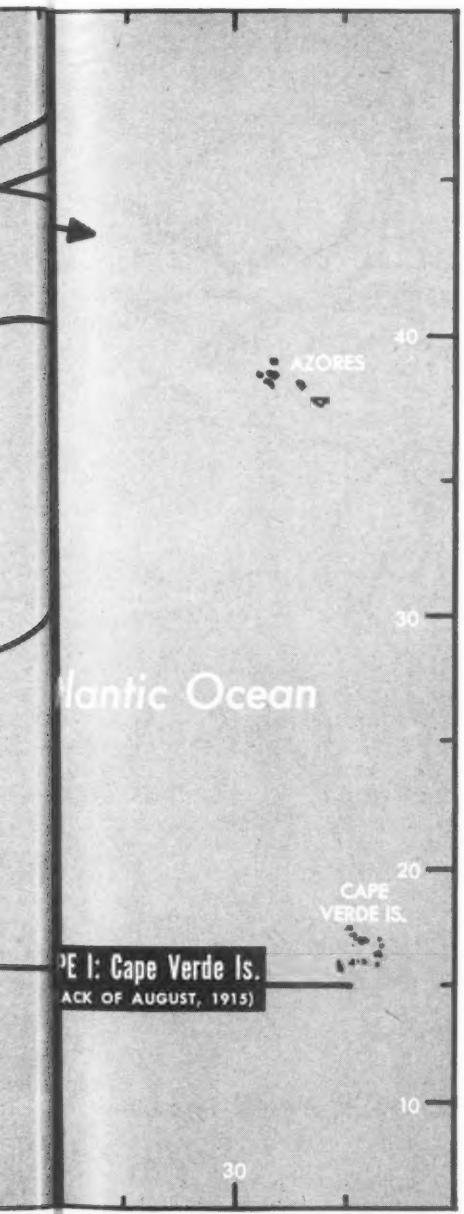

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ROBERT M. MOTTAR

AUTUMN MELEE

Drawings by AARON SOPHER

Contrary to nasty rumors propagated by weaklings, football is a game for the brainy, not just for the brawny. Here is proof.

Football is also relaxing. In the locker-room, if not on the field, players are pampered by massage and heat machines.

Football also develops a healthy gregariousness.

FOOTBALL, say its practitioners, is a great game to play. Builds character; builds muscles; builds a spirit of friendly aggressiveness that stands one in good stead for a lifetime. Also has uniforms that build impressive shoulders. Football, say others, is a great game to watch. In the watchers' camp is Aaron Sopher, who spectates and, below, draws what he sees.

On the playing field, one comes in contact with many interesting people.

Civilians also have a necessary, if somewhat inferior, rôle. From top: the press corps, the coach, the ref, a cheerleader.

THE CHOICES BEFORE US IN SOUTH ASIA

If the West is to have a permanent rôle there, says the author, we must construct our policies on Asian logic, not on our own

By PATRICK GORDON WALKER

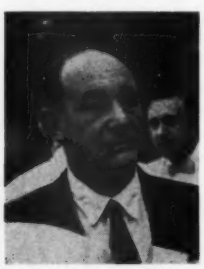
THE aim of the West in South and Southeast Asia must be to pass from the defensive and to seize the political initiative. If we are to do this, we must first realize why we are at present so much on the defensive—and we must distinguish between the immediate and the ultimate causes.

The immediate cause is the catastrophe of the loss of China to communism—a colossal reverse that has dramatically shifted the balance of power in Asia against us. We have been left scraping and scratching around in the attempt to retain precarious footholds on a cliff that is crumbling under our weight—in Malaya and Indochina, in Formosa and Hong Kong. If we slip much further a landslide may start that carries us away with it.

We have therefore a simple short-run aim: to avoid sliding any further. This is in the first instance a question of force, both military and economic. We must draw a line somewhere and make clear to any potential aggressor that transgression of this line would be met by force. We have to draw this line where we can, not where we would like. The line drawn by the South East Asia Treaty Organization (SEATO) is probably about the best we can do.

Even in the short run it is necessary to observe the limits of force. First, we must use it defensively; it must be genuinely held in reserve to resist aggression. We would lose all moral support in Asia if we gave even a hint of an impression that we would resort to force in our own interests. It is quite irrelevant to argue, as do some military men, that the aggressive use of force might be militarily successful. Even a victorious war would be a defeat for the West. We might win the war; we would indubitably lose Asia.

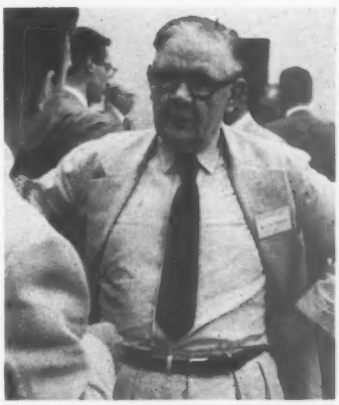
Secondly, we must not bluff. The defensive use of force is by its nature exposed to the test of probing actions by those with aggressive aims: bluffs will always be called. If you won't shoot, you must shut up.



The author, P. Gordon Walker (*left*), a member of Parliament since 1948, is a member of the Labour party. He was Secretary of State for Commonwealth Relations in 1950–51. He received his M.A. and B. Litt. at Oxford and was a history don at Christ Church there from 1930 to 1940. The article appearing on these pages is adapted from an address delivered by Mr. Walker at a conference on South and Southeast Asia held in Washington this summer by the Hopkins School of Advanced International Studies. The full proceedings will be published in a book by the Johns Hopkins Press sometime next spring.

WERNER WOLFF, BLACK STAR

Between sessions at the School of Advanced International Studies' conference on South and Southeast Asia: Benjamin I. Schwartz of Harvard University (*left*); J. S. Furnivall, adviser to Burma, and D.G.E. Hall of the University of London (*first picture below*); Victor Purcell of Cambridge University (*center picture*); and two conference goers.



The long-term limits upon the use of force by the West in South Asia are even graver. We must get out of our heads that the West has permanent superiority of force in Asia, regardless of the views of the Asian peoples. It can never be easy for us to bring forces to bear at such great distances from home. We cannot do more than our public opinion will allow. Even our superiority in weapons may be an illusion. In Asian warfare, manpower might be more potent than nuclear weapons.

We cannot, as some people easily suggest, substitute economic for military power, for these are not alternatives. Indeed, effective economic aid presupposes the defense of the independence of the recipients. It would do precious little good either to them or to us if they were nonetheless to fall into communist hands.

The West must certainly give South and Southeast Asia all the economic aid it can afford—perhaps more than it can afford. Poverty and misery lie at the root of the instability of the area.

But let us have no illusions about the speed or effectiveness of economic aid. You have to run even to keep standing still, for the first effect of economic aid is an increase in the population that keeps the per capita income where it was before. And if you try to run too fast you outrun the capacity of the people to use the aid, and a great deal of it goes to waste in inefficiency and corruption. The rate at which aid can be used is set by the time it takes to train people in new and unfamiliar skills. You can't short-circuit this; for if you go to other people's countries and apply your economic aid

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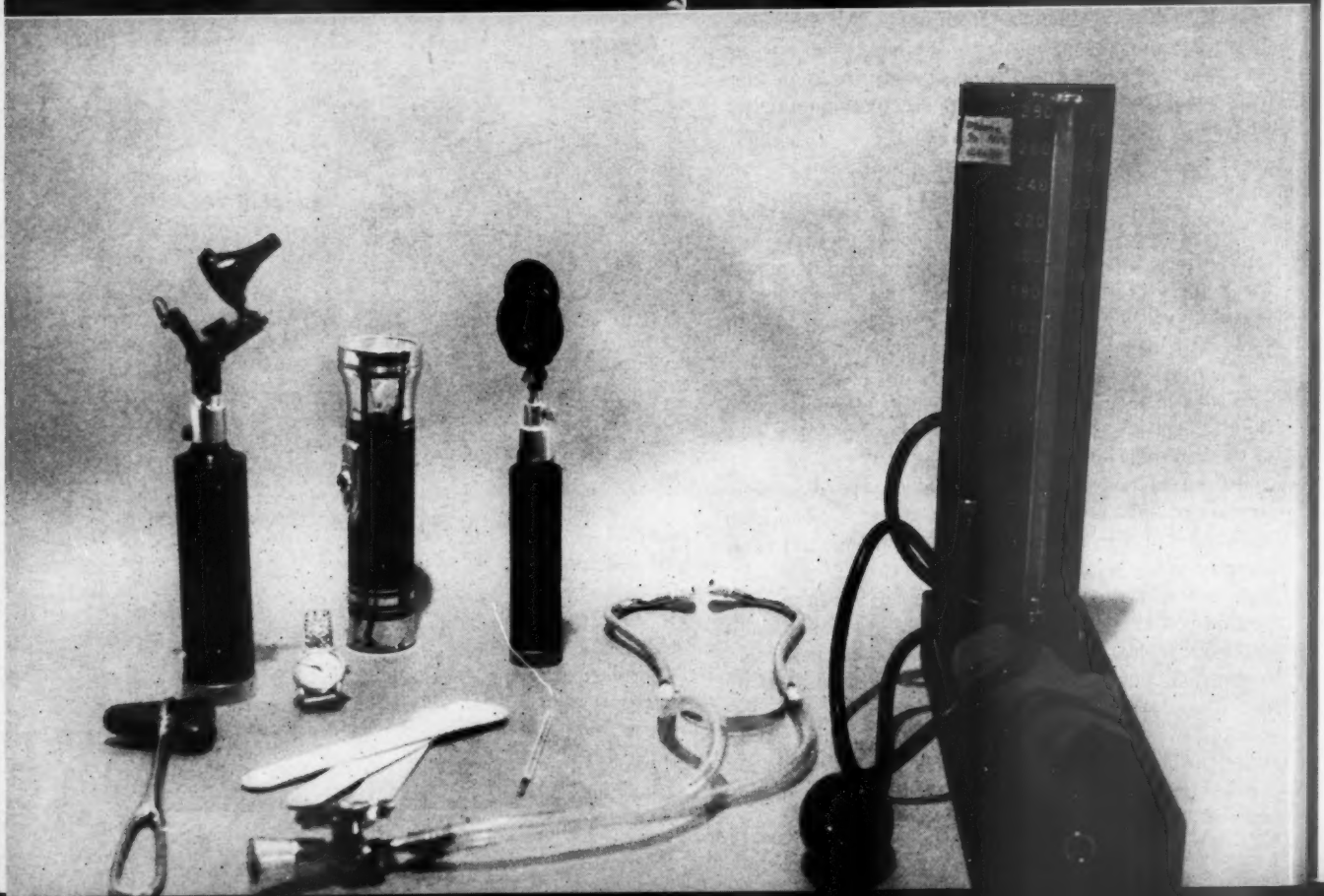


Taking the patient's "history" is absolutely essential to the diagnosing physician. Answers to questions which the patient may consider unnecessary often provide information the doctor needs.

THE PHYSICAL EXAM

With 4 basic techniques, the doctor learns much about his patient

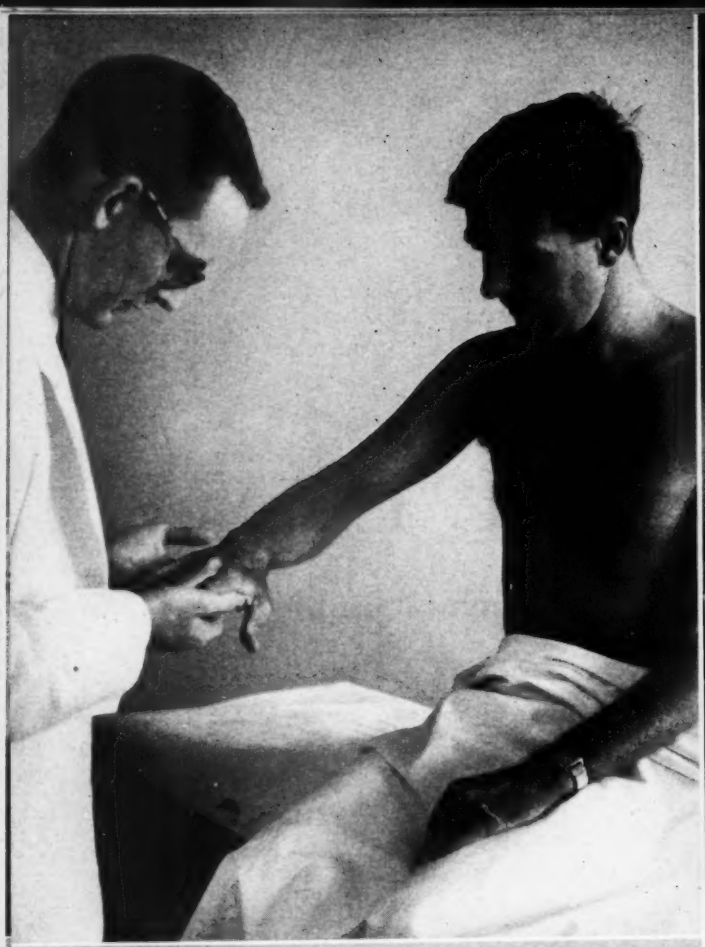
PHOTOGRAPHS FOR THE JOHNS HOPKINS MAGAZINE BY WERNER WOLFF, BLACK STAR

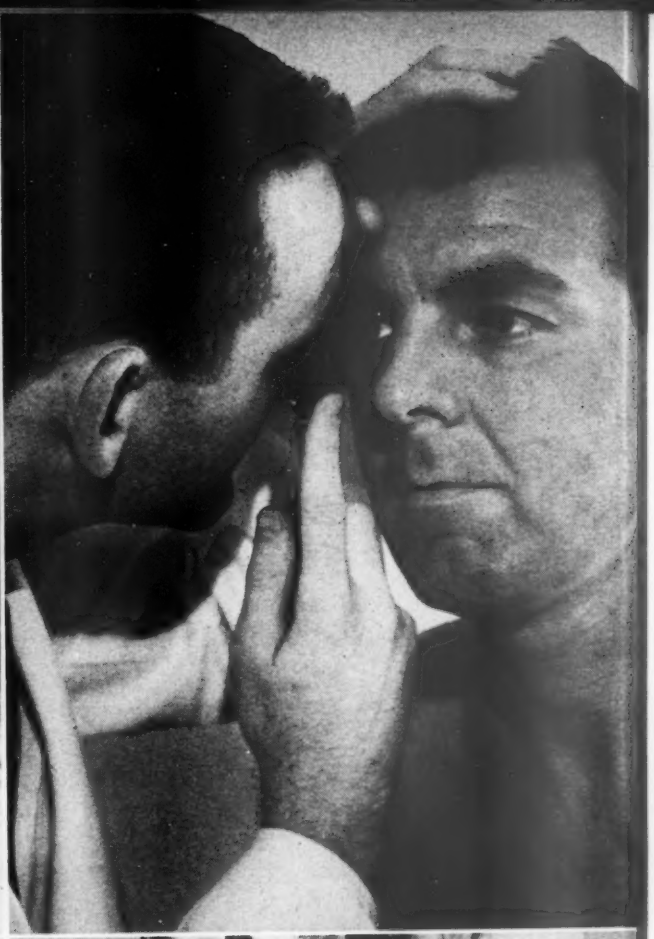
To diagnose human ills, medicine today employs many methods and machines which, as recently as a decade ago, were unknown. It utilizes techniques that range from electronics to nuclear physics. The devices—and the skills needed to run and interpret them—have become incredibly complex.

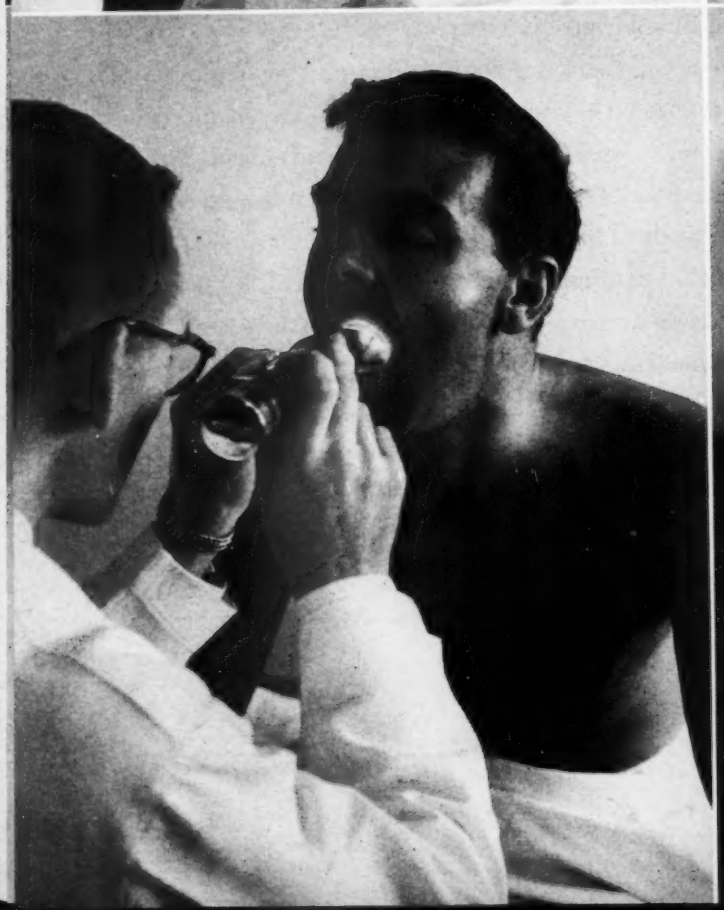
But gigantic as the strides have been, there are some techniques of diagnosis that, for years, have changed little, if at all. They probably never will; their validity is beyond question. The physician must use them before he can even consider calling other tools and techniques into play. The basis for some of them is centuries old; for others, it antedates recorded medical history.

Of all diagnostic tools, the physical examination is the most basic. Its classic steps—taken in a well established sequence from which the diagnostician rarely deviates—are four in number: inspection, palpation, percussion, auscultation. Look, feel, tap, listen. Simple as they may seem, the steps require long practice before one can take them intelligently. In each, the physician is a sort of Holmesian detective, searching for clues to his patient's ills. (Sir Arthur Conan Doyle, creator of Holmes, was in fact a physician who got his inspiration for the detective's techniques from the teachings of a thorough medical diagnostician.) For examples of what the physical examination entails, see the pages that follow.

The instruments of the basic physical examination: the otoscope, flashlight, ophthalmoscope, reflex hammer, watch, tongue depressors, thermometer, stethoscope, and sphygmomanometer.







Inspection

INSPECTION—*looking* at the patient to find signs of disease—is Step 1 in the physical examination. It serves a multitude of purposes. It includes the patient's mental state (signs of depression or even of excessive alertness may be significant); his posture (a variety of ills, including tetanus, heart troubles, and respiratory disease, may be clued); his movements; his weight; his temperature; his speech. The condition of the skin—its looseness, its dryness, its coloring, its marks—may furnish keys to ills ranging from tuberculosis to anemia, from jaundice to sunburn. That of the hair may help the physician to find a thyroid deficiency. So in every part of the body: the external inspection is the essential first step.

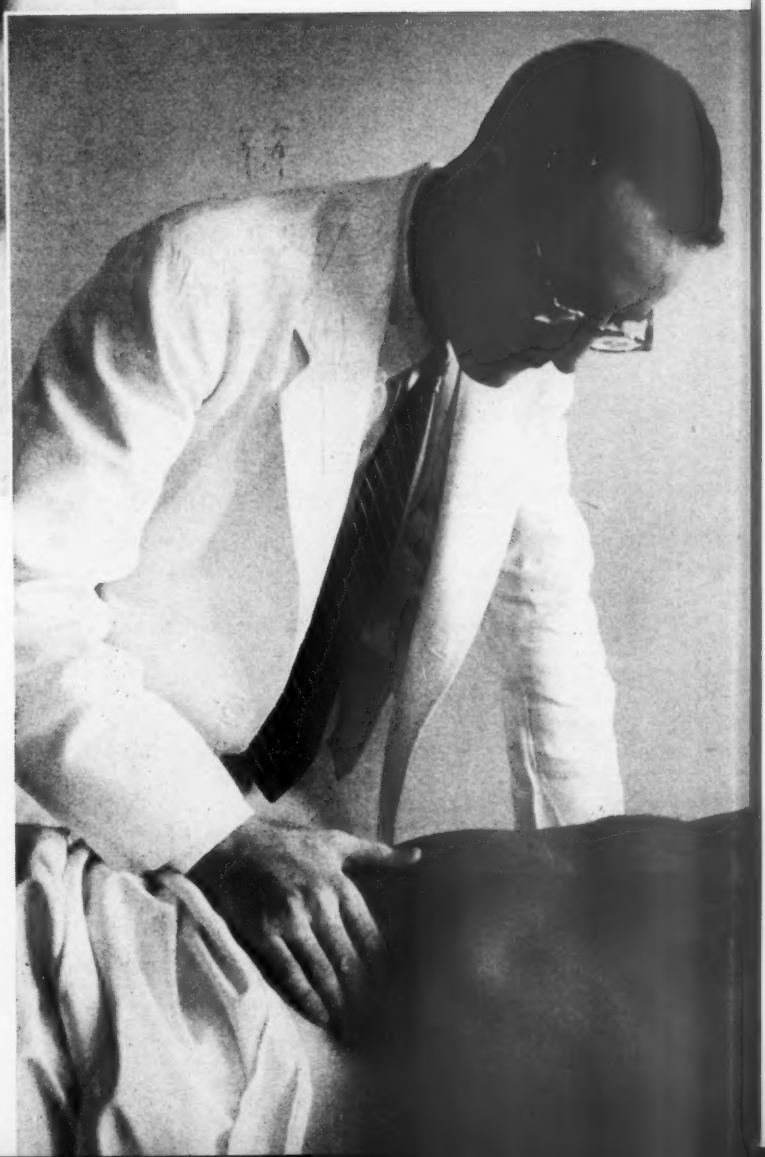
The pictures show four of the familiar procedures:

UPPER LEFT—The general external examination has reached the hand.

UPPER RIGHT—Using an ophthalmoscope, the physician examines the retina, located at the back of the eye. In the head of the ophthalmoscope is a series of lenses with different depths of focus, enabling the examiner to look sharply at various points within the eye; a prism directs a beam of light to the proper point. The examiner is interested in the retina not to learn about the patient's eyesight but because the retina is one point in the body where one's small blood vessels can be observed; and changes occur in the small blood vessels in cases of vascular disease, diabetes, and kidney disease. Neurological disease may be disclosed here, also.

LOWER LEFT—With flashlight and a depressor for the tongue, the physician inspects the mouth and throat. He looks for bad teeth and lesions; he examines the tonsils and the mucous membranes of the mouth.

LOWER RIGHT—The examiner observes the patient's knee jerk, in order to determine that the reflex arc is intact. His hammer tap stretches a tendon; an impulse goes to the spinal cord; back from the spinal cord come impulses that activate the muscle and cause it to jerk. If the reflex action does not occur, perhaps the sensory nerves, the spinal cord, or the motor nerves are damaged. But, as in nearly every step of the physical examination, this is only a clue—perhaps false. Some people have no knee reflex yet no damage to the nerves or spinal cord exists.



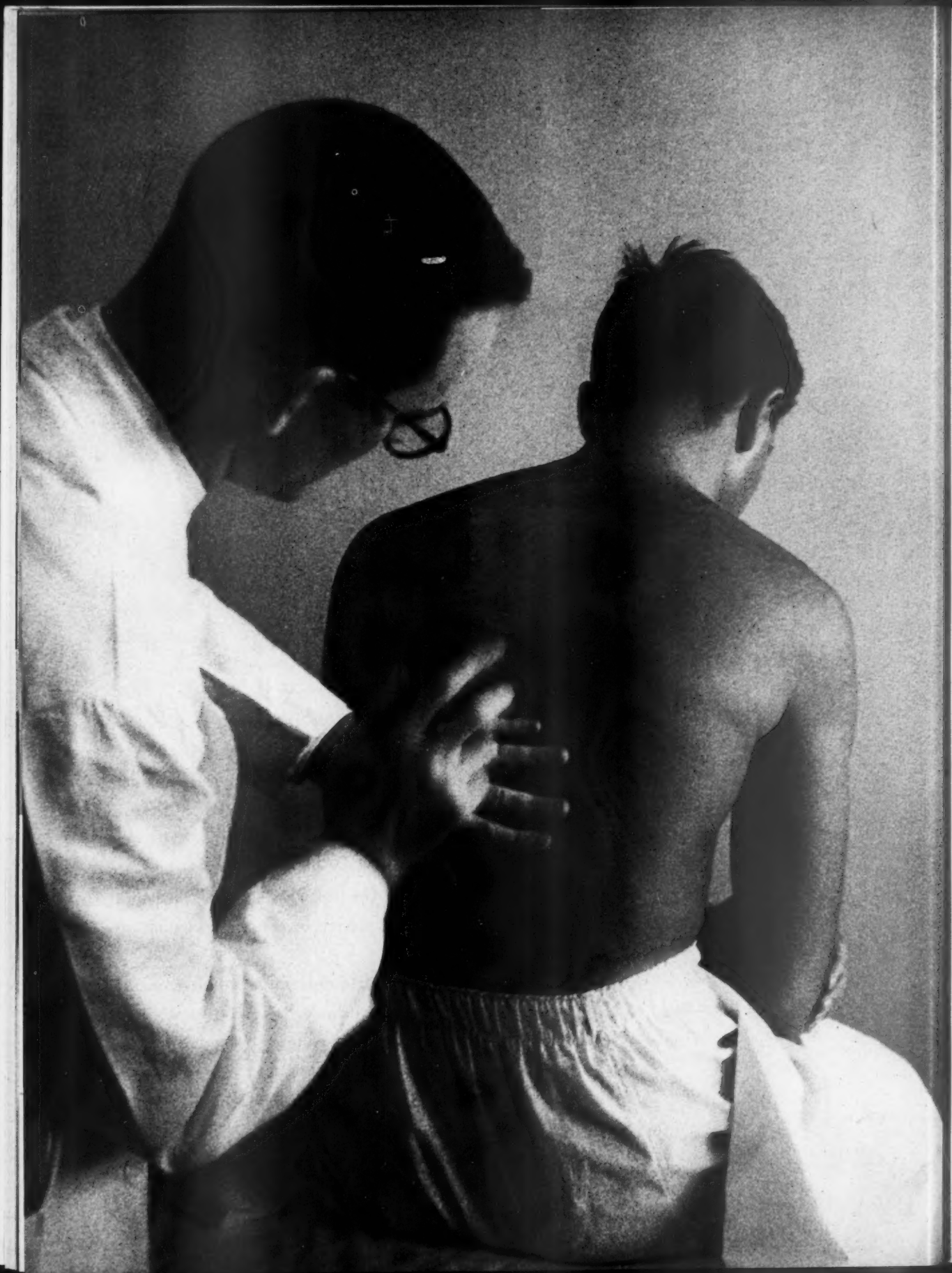
Palpation

PALPATION—*feeling* the patient—is one of the oldest examination techniques. Until the latter part of the eighteenth century, it and inspection were the only procedures known. But even with this limited knowledge, the physician learned much about his patient, and the techniques are still invaluable.

Taking his patient's pulse, the doctor becomes familiar with the heartbeat: not only its speed, but also whether its rhythm is regular or irregular, whether its volume is full or "thready." Here, too, he gets a feel of the thickness of the larger arteries. In ancient Egypt, physicians likened the pulse to the flooding and receding of the Nile. Although they did not know why there were so many, early physicians listed as many as sixty-two varieties of pulse. With today's knowledge, the examiner receives valuable information from the pulse, helpful in spotting the presence of cardiovascular disease. And comparing the pulsebeats on the patient's two wrists may help lead to the discovery of an aneurysm or a tumor pressing on an artery and retarding the flow of blood.

The physician palpates everywhere: over the chest to determine whether or not it expands symmetrically, and to locate the heartbeat; over bones to see if they are tender, perhaps indicating that a fracture or tumor lurks; over the entire body. Palpating the abdomen, he seeks points of tenderness and determines its rigidity. He feels for enlargement of abdominal organs and for abdominal masses such as tumors in the pancreas, kidney, colon.

In the photograph, the physician is palpating for enlargement of the spleen.

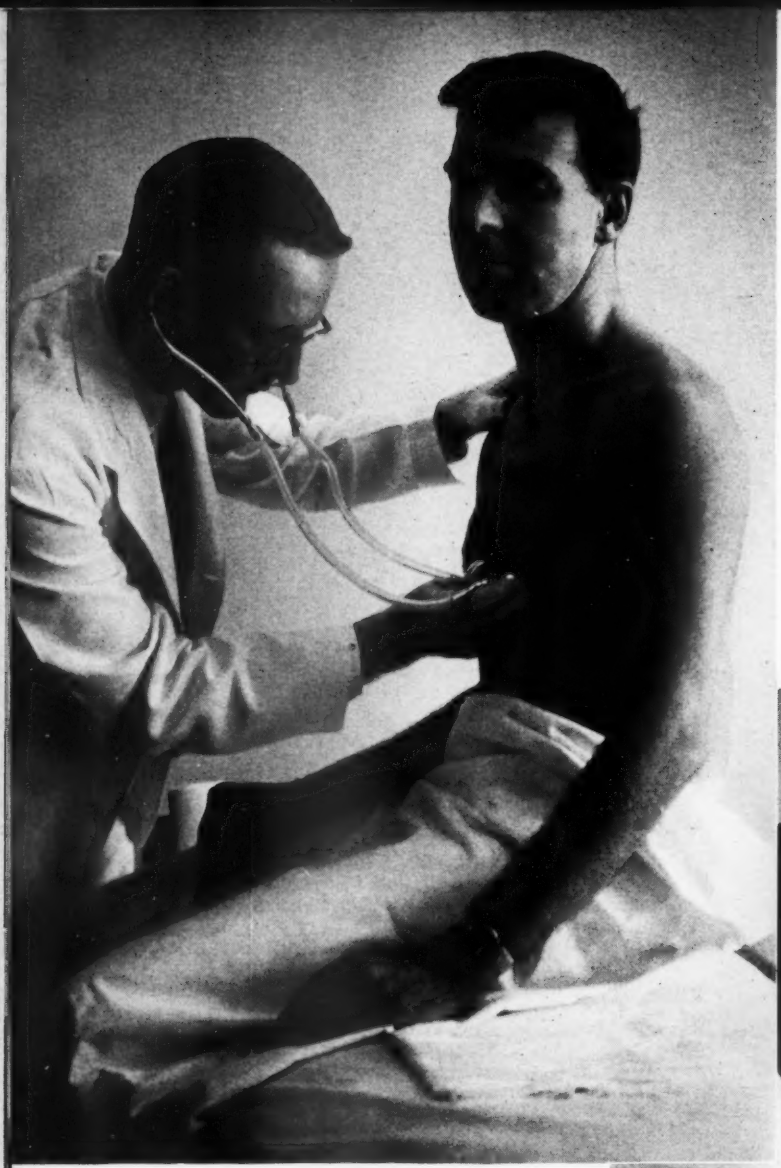


Percussion

PERCUSSION—*tapping* or *thumping* the patient—was discovered by Leopold Auenbrugger, an innkeeper's son who grew up to become a doctor. As a boy in the inn, he learned to tell whether a wine cask was full or empty—and to exactly what level the wine had fallen—by tapping on its end. As a physician, he remembered the trick: after "seven years' observation and reflection," he published a paper describing how the same technique could be used in examining humans. For nearly fifty years, his discovery was unnoticed; in 1808, Napoleon's physician translated it into French and Auenbrugger's simple principle—that a dull sound indicates a filled area and a resonant sound indicates emptiness—became one of the diagnostician's most useful tools.

By tapping, the physician can trace the border between heart and lungs; the change from dull sound to resonance tells him where the boundary lies. The limits of the liver (which cannot always be determined by feel) become clear through a telltale "tympany" as he taps over the intestines. A distended bladder can be found (the bladder is water-filled, the bowel has gas, and the difference in their sounds is marked). By shifting the position of the patient's body and percussing, the examiner can detect the presence of free fluids that move from place to place as the body is turned.

In the photograph, the physician is percussing for the base of the lung—the point where resonance (over the lung) turns into dullness (over the abdomen). Elsewhere on the back, thumping will reveal any abnormal areas of dullness in the lungs—which might indicate one of many things, from tumors to pneumonia, which the physician, having been tipped off, would then proceed to investigate in detail.



Auscultation

JUST as percussion was discovered as the result of a childhood experience, so was auscultation. René Théophile Hyacinthe Laënnec, a nineteenth-century French physician, one day was pondering how to examine a patient with heart disease. The patient was fat, and in diagnosing her case neither palpation nor percussion had worked well. Walking near the Louvre, he saw children at play. One was scratching the end of a long beam; the others pressed their ears to the far end, listening to the sound. Laënnec visited his patient, rolled a sheet of paper into a cylinder, put one end to her chest and the other to his ear. He heard her heart sounds—and the breath in her lungs, as well. In the years that followed, he refined his instrument. He named it the stethoscope.

The stethoscope in the photographs at the left has two "ears"—a bell, for picking up low-frequency sounds, and a diaphragm, which hears high-frequency sounds. Listening over the heart, the physician can hear two sounds as, in the heart's contraction, one set of valves closes and, in relaxation, another set closes. He can determine whether or not the sounds are normal and he listens for the swishing sound of murmurs, some of which are high-frequency, some low.

Over the lungs, the examiner listens to the character and intensity of the breath-sounds as air is inhaled and expelled. He may test the transmission of whispered or spoken voice-sounds through the lungs, to determine whether obstacles are present. (Fluid in the lungs, for instance, might have been indicated by a dullness when he percussed and be confirmed by an unusually loud transmission of voice-sounds, which travel better through liquid than through air.)

Auscultation is also employed to determine blood pressure. A cloth cuff is wrapped around the patient's arm and inflated so that it forms a tourniquet, cutting off the flow of blood to the lower arm. On a scale, the air pressure in the cuff is indicated in millimeters of mercury. As the air is slowly let out of the cuff, the doctor places his stethoscope on the artery, listening. At first he hears nothing. Then comes a beat; the pressure of air in the cuff has just dropped past a point equaling the maximum, or systolic, pressure exerted by each heartbeat, and a bit of blood has pushed its way through. The doctor continues to hear beating sounds until the air pressure in the cuff has decreased to a point below the minimum, or diastolic, pressure of the heartbeat. At this point the sounds cease, and the blood flows smoothly, noiselessly under the arm-encircling cuff.

A Johns Hopkins Gazette

AN UNOFFICIAL COMPENDIUM OF FACULTY AND ALUMNI APPOINTMENTS, HONORS, AND ACCOMPLISHMENTS

THE FACULTY

AT COMMENCEMENT EXERCISES marking the close of the University's seventy-ninth academic year, honorary degrees of doctor of laws were conferred on Frank W. Abrams, former chairman of the board of directors of the Standard Oil Company of New Jersey, Htin Aung, rector of the University of Rangoon, and Dag Hammarskjold, secretary general of the United Nations. Seven hundred forty students received their degrees at the exercises.

AMONG MEMBERS OF THE BOARD OF TRUSTEES, D. Luke Hopkins has been elected chairman of the finance committee, director, and a member of the executive committee of the Fidelity-Baltimore National Bank and Trust Company.

IN THE SCHOOL OF MEDICINE, Eveleth W. Bridgman, B.A. '08, M.D. '12, has become assistant professor emeritus of medicine.

James R. Cantrell, B.A. '44, M.D. '46, has been promoted to assistant professor of surgery.

H. Julian Chisolm, M.D. '16, has become assistant professor emeritus of laryngology and otology.

Leighton E. Cluff has been promoted to assistant professor of medicine, and has been awarded a five-year appointment as John and Mary Markle Foundation Fellow in medicine.

B. Matthew Debuskey, B.A. '28, M.D. '32, has been promoted to assistant professor of pediatrics.

Leon Eisenberg has been promoted to assistant professor of pediatrics.

Frederick G. Germuth, Jr., B.A. '42, M.D. '45, has been promoted to associate professor of pathology.

David Grob, M.D. '42, G. '46–'48 (Biology), has been promoted to associate professor of medicine.

Joan G. Hampson, M.D. '46, has been promoted to assistant professor of psychiatry.

John L. Hampson, M.D. '46, has been promoted to assistant professor of psychiatry.

John C. Harvey, M.D. '47 has been, promoted to assistant professor of medicine.

Wayne E. Jacobson, M.D, '49, instructor in psychiatry has been appointed clinical director of Sheppard-Pratt Hospital, Baltimore.

John T. King, M.D. '14, has become associate professor emeritus of medicine.

Harry F. Klinefelter, Jr., M.D. '37, has been promoted to assistant professor of medicine.

Amos R. Koontz, M.D. '18, has become assistant professor emeritus of surgery.

Julius R. Krevans has been promoted to assistant professor of medicine.

Milton Landowne has been promoted to assistant professor of medicine.

Robert G. Langdon has been promoted to assistant professor of physiological chemistry.

J. Herman Long, M.D. '29, has been promoted to associate professor of gynecology.

Gertrude D. Maengwyn-Davies, PH.D. '52 (Biology), assistant professor of ophthalmology, has been appointed associate research professor of biochemistry at George Washington University Medical School.

James V. Maloney, Jr., instructor in surgery, has been appointed assistant professor of surgery at the University of California Los Angeles Medical Center.

Milton Markowitz has been promoted to assistant professor of pediatrics.

Curtis Marshall has been promoted to associate professor of neurological surgery.

Lay Martin, M.D. '20, has been promoted to associate professor of medicine.

John G. McAfee has been promoted to assistant professor of radiology.

Eugene Meyer, III, M.D. '41, has been promoted to associate professor of psychiatry and associate professor of medicine.

John W. Money has been promoted to assistant professor of psychiatry.

George T. Nager has been promoted to assistant professor of laryngology and otology.

Moses Paulson, G. '26–'27 (Hygiene), has been promoted to associate professor of medicine.

Martin Singewald, B.E. '30, M.D. '38, has been promoted to assistant professor of medicine.

Harry R. Slack, Jr., M.D. '12, has become assistant professor emeritus of laryngology and otology.

Frank C. Spencer, has been promoted to assistant professor of surgery.

Alvin P. Wenger has been promoted to assistant professor of laryngology and otology.

Austin H. Wood has become assistant professor emeritus of urology.

Israel Zeligman, B.A. '33, has been promoted to assistant professor of dermatology.

IN THE FACULTY OF PHILOSOPHY, Theodore H. Berlin has been appointed professor of physics.

Beulah B. (Mrs. Chauncey R.) Tatum, PH.D. '43 (Education), assistant professor of education, has been appointed professor and head of the department of education at Goucher College.

Dayton E. Carritt has been promoted to associate professor of oceanography.

Carl F. Christ, associate professor of economics, has been named associate professor of economics at the University of Chicago.

Walter L. Hughes, associate professor of biology in the McCollum-Pratt Institute, has become head of the division of microbiology at Brookhaven National Laboratory.

Marvin E. Shaw has been promoted to assistant professor of psychology.

IN THE SCHOOL OF HYGIENE AND PUBLIC HEALTH, Elizabeth M. Edmands has been appointed assistant professor of public health administration.

Gale W. Rafter has been appointed assistant professor of biochemistry.

IN THE SCHOOL OF ENGINEERING, Robert Maddin, associate professor of mechanical engineering, has accepted the post of professor of metallurgy at the University of Pennsylvania.

John Stearns Thomsen has been appointed assistant professor of mechanical engineering.

BOOKS

Harold A. Abramson, FAC. '28–'29: *Neuropharmacology, Transactions of the First Conference* (Josiah Macy, Jr. Foundation).

Reuben A. Baer, B.S. '34, M.A. '37, PH.D. '41 (Psychology) *Principles of Leadership and Management* (Air Force ROTC).

Hans Baron, FAC. '46–'47 (History): *Humanistic and Political Literature in Florence and Venice at the Beginning of the Quattrocento: Studies in Criticism and Chronology* (Harvard, $4.75).

James H. Fitzgerald Brewer, FAC. '46–'47 (History): *History of the 175th Infantry (Fifth Maryland)* (Maryland Historical Society).

Roberta Florence Brinkley, G. '28–'30 (English), editor: *Coleridge on the Seventeenth Century* (Duke, $12.50).

W. Dean Burnham, B.A. '51, M.A. '52, G. '52–'53 (Political Science): *Presidential Ballots, 1836–1892* (Johns Hopkins, $10).

Walter E. Burton, '23–'24, '27–'28 (Arts): *The Story of Tire Beads and Tires* (McGraw-Hill, $5).

Earl A. Coddington, Arts '38–'40, PH.D. '48 (Mathematics), FAC. '48–'49: *Theory of Ordinary Differential Equations* (McGraw-Hill, $8.50).

Robert E. Coker, PH.D. '06 (Zoology): *Streams, Lakes, Ponds* (University of North Carolina, $6).

Sidney P. Colowick, professor of biology, and Nathan O. Kaplan, associate professor of biology (McCollum Pratt): *Methods in Enzymology* (Academic, $18).

Richard T. Cox, B.A.'20, PH.D.'24, dean of the College of Arts and Sciences: *Statistical Mechanics of Irreversible Change* (Johns Hopkins, $5).

Arthur Ecker, M.D. '34: *Angiographic Localization of Intracranial Masses* (Thomas, $13.50).

Friedrich Engel-Janosi, '40–'42 (History): *Four Studies in French Romantic Historical Writing* (Johns Hopkins, $2.50).

E-tu Zen Sun, FEL. '51–'52 (Page School): *Chinese Railways and British Interests, 1898–1911* (King's Crown, $4).

Louis B. Flexner, M.D. '27, FAC. '27–'40: *Gestation, Transactions of the First Conference* (Josiah Macy, Jr. Foundation, $5).

Laman A. Gray, M.D. '32, House Staff '32–'37 (Gynecology): *Vaginal Hysterectomy: Indications, Technique, and Complications* (Thomas, $4.75).

John R. Gregg, FAC. '46–'47 (Biology): *The Language of Taxonomy* (Columbia, $2.50).

A. McGehee Harvey, M.D. '34, professor of medicine; James Bordley III, M.D. '27, House Staff '27–'30, FAC. '29–'47: *Differential Diagnosis.*

George R. Havens, PH.D. '17 (Romance Languages): *The Age of Ideas* (Holt, $6).

Lewis B. Hill, assistant professor of psychiatry: *Psychotherapeutic Intervention in Schizophrenia* (Chicago, $5).

Chester S. Keefer, M.D. '22, Fac. '23–'26 (Medicine): *Prolonged and Perplexing Fevers* (Little, Brown, $5.50).

Edmund L. Keeney, M.D. '34, FAC. '37–'47: *Practical Medical Mycology* (Thomas, $4.50).

Ivey F. Lewis, PH.D. '08 (Botany), D. H. Wenrich, and John R. Raper; editors: *Sex In Microorganisms* (American Association for the Advancement of Science, $5.75).

Herbert A. Lubs, PH.D. '14, editor: *The Chemistry of Synthetic Dyes and Pigments* (Reinhold).

Gustav J. Martin, SC.D. '35 (Hygiene): *Ion Exchange and Adsorption Agents in Medicine* (Little, Brown, $7.50).

Robert C. Mellors, M.D. '44, FAC. '42–'44: *Analytical Cytology: Methods for Studying Cellular Form and Function* (McGraw-Hill, $15).

H. Houston Merritt, M.D. '26: *A Textbook of Neurology* (Lea and Febiger, $12.50).

Samuel Eliot Morison, FAC. '41–'42: *Christopher Columbus, Mariner* (Little, Brown, $3.75).

Robert Leet Patterson, G. '35–'39 (Indology), FAC. '34–'35 (Philosophy): *Irrationalism and Rationalism in Religion* (Duke, $3).

Morris L. Radoff, PH.D. '32 (Romance Languages): *Buildings of the State of Maryland at Annapolis* (Hall of Records Commission, State of Maryland).

Geoffrey Rake, FAC. '28–'31 (Pathology): *Viral and Rickettsial Diseases of the Skin, Eye, and Mucous Membranes of Man* (Little, Brown, $8.50).

Hyder Edward Rollins, G. '14–'15 (English), editor: *More Letters and Poems of the Keats Circle* (Harvard, $3).

Louis D. Rubin, Jr., M.A. '49 (Writing), PH.D. '54 (Aesthetics of Literature): *Thomas Wolfe: The Weather of His Youth* (Louisiana State, $3.50).

Ernest Sachs, M.D. '04: *Prerequisites of Good Teaching and Other Essays* (Shoe String, $2.50).

Edward J. Scott, G. '37–'38 (Mathematics): *Transform Calculus with an Introduction to Complex Variables* (Harper, $7.50).

William W. Scott, professor of urology: *Year Book of Urology* (Year Book, $6).

Richard T. Shackelford, M.D. '29, assistant professor of surgery, assisted by Hammond J. Dugan, M.D. '38, assistant in surgery: *Surgery of the Alimentary Tract* (Saunders, $60).

Bartel L. van der Waerden, FAC. '47–'48 (Mathematics): *Science Awakening* (Noordhoff).

John H. Wellington, FAC. '50–'51 (Geography): *Southern Africa: A Geographical Study,* vol. 2 (Cambridge, $6.50).

Louis B. Wright, G. '27–'28 (English): *Culture on the Moving Frontier* (Indiana, $3.50).

ATOMS FOR PEACE

The United States delegation at the International Conference on Peaceful Uses of Atomic Energy, which met at Geneva, Switzerland, in August, had as members the following ten Hopkins alumni: Harrison Scott Brown, PH.D. '41 (Chemistry); Floyd L. Culler, Jr., B.E. '43; Richard W. Dodson, PH.D. '39 (Chemistry); Dale W. Jenkins, FAC. '54 (Hygiene); William R. Kanne, PH.D. '37 (Physics); Kurt A. Kraus, PH.D. '42; Thoma M. Snyder, PH.D. '40 (Physics); Clifford E. Weber, PH.D. '44 (Chemistry); John A. Wheeler, PH.D. '33 (Physics); and Abel Wolman, professor of sanitary engineering and water resources.

THE ALUMNI

Ralph H. Major, M.D. '10, House Staff '10–'12, FAC. '11–'13 (Medicine), has retired as chairman of the history of medicine department at the University of Kansas. One-time chairman of the department of medicine at Kansas, he will be visiting professor at the University of Manila this year.

William F. Mengert, M.D. '27, has resigned as chairman of the department of obstetrics and gynecology at the University of Texas to accept the post of chief in obstetrics at the University of Illinois School of Medicine. He is presently the president of the American Academy of Obstetrics and Gynecology.

Edward M. Passano, B.S. '27 (Economics), executive vice president and treasurer of Williams and Wilkins Co. and Waverly Press in Baltimore, has

been elected president of the Maryland Tuberculosis Association.

Katherine Dodge Brownell, M.D. '28, has been awarded an Elizabeth Blackwell citation for her work as director of the Lower East Side Rheumatic Fever Project in the department of preventive medicine at the New York University College of Medicine.

Marshall Edward Dimock, PH.D. '28 (Political Science), has been appointed professor of government at New York University.

Robert C. Yates, M.A. '28, PH.D. '30, FAC. '30–'31 (Mathematics), has been appointed head of the department of mathematics at the College of William and Mary.

W. Purnell Hall, B.A. '30, has been appointed a director of the Baltimore branch of the Federal Reserve Bank of Richmond. Mr. Hall is also executive vice president of the Maryland Shipbuilding and Drydock Co.

Katherine K. Rice, SC.D. '30 (Hygiene), M.D. '41, House Staff '43–'45, has become medical director of Linwood Children's Farm, a newly opened center for research and treatment for emotionally disturbed children in Ellicott City, Md.

Harold W. Stoke, PH.D. '30 (Political Science), has been appointed dean of the Graduate School of Arts and Sciences of New York University. He was also appointed chairman of the graduate commission and professor of government.

Morris L. Radoff, PH.D. '32 (Romance Languages), has been elected president of the American Society of Archivists for the current academic year.

Lawrence R. Hafstad, PH.D. '33 (Physics), FAC. '46–'54, has been appointed head of the research staff of the General Motors Corporation.

Edwin Stein, B.S. '33, G. '37–'38 (Education), has been appointed deputy superintendent of schools in Baltimore City.

John S. Burlew, PH.D. '34 (Chemistry) was awarded an honorary SC.D. by Bucknell University for his "contribution in interpreting the whole domain of chemical research, as a skilled observer and experimenter in the realm of geophysics, and for his service to his country in its hour of need." He is assistant director of the Franklin Institute of Philadelphia.

Paul W. Ingham, B.E. '34, has been sent to Liberia, West Africa, by the B. F. Goodrich Rubber Company to be in charge of building roads, homes, power plants, and rubber processing plants on their new rubber plantation.

E. W. Cannon, PH.D. '35 (Mathematics), has been appointed chief of the applied mathematics division of the National Bureau of Standards.

D. Mead Johnson, B.S. '36 (Economics), Trustee '53–'55, has been elected president and chief executive officer of Mead Johnson and Company, the nutritional and pharmaceutical firm.

Lester L. Hasenbush, M.D. '38, House Staff '42–'44, has been appointed clinical associate in psychiatry at the Harvard Medical School.

Donald Hamilton, Jr., B.A. '39, has been appointed general sales manager of the Gray Manufacturing Company.

John B. Hozier, M.P.H. '39, has been appointed chief of the Office of Health Emergency Planning of the U.S. Public Health Service.

J. Earl Thomas, Jr., B.A. '39, presently assistant professor of electrical engineering at M.I.T., has been named chairman of the physics department at Wayne University.

James Stevens Simmons, FAC. '40–'45 (Preventive Medicine), has been posthumously honored by the surgeon general of the Army, who has established an annual lecture at Walter Reed Army Medical Center to be given in the field of military preventive medicine.

Harrison S. Brown, PH.D. '41, FAC. '41–'42 (Chemistry), professor of geochemistry at the California Institute of Technology, has been elected to membership in the National Academy of Sciences.

Elmer C. Herber, SC.D. '41, has been made head of the department of biology at Dickinson College, effective this fall. Dr. Herber has also been awarded the Darbaker prize of the Pennsylvania Academy of Sciences for his work on "Life History Studies on *Notocotylus urbanensis*, an intestinal parasite of the muskrat."

Franklin H. Reeder, Jr., M.P.H. '41, has been appointed medical director for Region Seven of the Pennsylvania Department of Health; this includes Bucks, Chester, Delaware, Montgomery and Philadelphia counties.

Alfred I. Maleson, B.S. '42 (Economics), has been appointed professor of law at Albany Law School, Union University.

W. Kendrick Pritchett, PH.D. '42 (Greek), professor of Greek at the University of California, has been awarded a Guggenheim Fellowship for research in the military history of ancient Greece.

Robert L. Zobel, M.P.H. '42, has been appointed chief of the Health Division of the U. S. Operations Mission in Thailand.

Samuel P. W. Black, M.D. '43, has been appointed associate professor of surgery (neurosurgery) at the University of Missouri.

Earl W. Keller, B.E. '43, has been appointed to the faculty of pure science at Columbia University where he will conduct research in advanced circuit theory and microwave electronics and organize a center for microwave research.

William L. Nute, M.D. '43, has become a member of the staff of the new Children's Medical Center of the University of Ankara. He will participate in the training of young Turkish doctors, nurses, and social workers.

Robert D. Sloan, M.D. '43, FAC. '48–'55 (Radiology), has been appointed professor and director of the department of radiology at the University of Mississippi Medical Center.

B. Dixon Holland, M.P.H. '47, has been appointed chief of the industrial and preventive medicine division at Aberdeen Proving Ground.

M. Josiah Hoover, Jr., House Staff '47–'49, FAC. '48–'49 (Orthopedic Surgery), has been appointed professor of orthopedics at the Medical College of Virginia.

Manney Frank Mallette, FAC. '48–'55 (Hygiene), has been appointed associate professor of biochemistry at Pennsylvania State University.

Clayton N. Triplett III, Business '48–'51, has been made president of the Baltimore Gas Light Company.

John M. Danielson, Hospital Administration '49–'52, has been appointed director of the North Shore Hospital, Manhasset, New York.

Gordon A. Hellman, B.S. '49 (Business), has been appointed director of sales promotion for the Television Bureau of Advertising.

Harold Stanley Stewart, PH.D. '49 (Physics), head of the radiometry branch at the Naval Research Laboratory, has received the Navy's highest civilian award. He was cited for "brilliant scientific accomplishments and leadership."

David J. Vail, House Staff '49–'52 (Psychiatry), has been appointed clinical director of the Rosewood State Training School in Maryland.

Waldemar J. A. Wickman, M.P.H. '49, has been appointed assistant chief of the Division of Hospitals of the U.S. Public Health Service.

K. Elise Fitzpatrick, B.S. '50, has been appointed assistant professor of obstetrical nursing at Western Reserve Medical School.

John M. Fowler, G. '50–'54 (Physics) has been appointed assistant professor of physics at Washington University.

Karl Denner, PH.D. '51 (English), has been appointed assistant professor of English at McMaster University.

John T. Hamilton, '50–'51 (Engineering), has been awarded a Rhodes scholarship.

Edward H. Harris, FAC. '50–'52, has been appointed assistant professor of mechanical engineering at Tulane University.

Judy Mendels, M.A. '50, PH.D. '53 (German), has been appointed assistant professor of German at Cedar Crest College.

George S. Husson, FEL. '51–'52 (Pediatrics), '53 (Environmental Medicine), House Staff '51–'54, has been appointed assistant professor of pediatrics at the State University of New York, Upstate Medical Center.

Joseph H. McNinch, M.P.H. '51, has been appointed chief of the personnel division in the office of the Army surgeon general.

Christopher Van Hollen, PH.D. '51 (Political Science), has been appointed American consul in Calcutta, India.

John E. Hardy, FAC. '52–'54 (Philosophy, Writing), has been appointed assistant professor of English at Notre Dame University.

John B. Thomas, B.S. '52 (Electrical Engineering), has been appointed assistant professor of electrical engineering at Princeton University.

Bruce Charles Lutz, PH.D. '54 (Physics), has been appointed assistant professor of electrical engineering at the University of Delaware, effective this fall.

DEATHS

E. Frances Abernathy, Graduate Nurse '41, head of pediatrics nursing; July 23, 1955.

Isaac Arthur Anson, G. '16–'17 (Political Science); June 10, 1955.

Gertrude Fawcett (Mrs. R. Lauck) Benson, Graduate Nurse '18; February 8, 1955.

Howard Weldon Bishop, Senior Staff, APL; May 20, 1955.

McCOY COLLEGE
THE JOHNS HOPKINS UNIVERSITY

Announcing a special series of lectures

THE INDIVIDUAL *and the* STATE

THURSDAYS, 8:30–9:45—ten meetings beginning October 6; members of the Faculty and guest speakers.

THIS series of discussions of the relationships between the Individual and the State has been planned in connection with the observance of the centennial of the birth of Woodrow Wilson, who earned the degree of Doctor of Philosophy in this University.

After a formal presentation by each speaker at the beginning of the period, members of the class will have an opportunity to raise questions.

FEE: $15. Registration information, HO 7-3300, ext. 422.

THE TOPICS AND SPEAKERS

Oct. 6—THE CONSCIENTIOUS OBJECTOR IN GREEK LIFE: ANTIGONE AND SOCRATES: Ludwig Edelstein, professor of humanistic studies.

Oct. 13—REBELLION AND ACQUIESCENCE IN ROME—Henry T. Rowell, professor of classics.

Oct. 20—THE ABSOLUTE SOVEREIGN: MACHIAVELLI, HOBBES, ROUSSEAU: Thomas I. Cook, professor of political science.

Oct. 27—THE LAW AS SOVEREIGN: Robert W. Tucker, assistant professor of political science.

Nov. 3—THE THEORY OF CIVIL DISOBEDIENCE: THOREAU: Charles A. Barker, professor of American history.

Nov. 10—THE THEORY OF PLURAL SOVEREIGNTY: George Boas, professor of the history of philosophy.

Nov. 17—EXPERIMENTS IN AUTOCRACY: THE CORPORATE STATE: Gottfried Dietze, assistant professor of political science.

Dec. 1—LIMITATIONS OF SOVEREIGNTY: THE UNITED STATES AND THE UNITED KINGDOM: Francis E. Rourke, assistant professor of political science.

Dec. 8—THE CHURCH AND THE STATE: The Rev. Walter T. Gouch, chaplain, the Newman Club.

Dec. 15—GOVERNMENT IN PRIMITIVE COMMUNITIES: Margaret Mead, associate curator of ethnology, American Museum of Natural History.

Walter Stewart Brauns, B.A. '06; August 5, 1955.

William Johnson Brennan, G. '46–'47 (Chemistry); June 17, 1954.

Edward P. Carter, House Staff '94–'96 (Medicine), FAC. '18–'36; July 31, 1955.

Walter Lynn Cheney, PH.D. '22 (Physics); July 6, 1955.

Alexander Chessin, FAC. '94–'99 (Mathematics); July 11, 1955.

Clifford Clayton Corkill, M.P.H. '41; May 21, 1955.

Jaime de Angulo, M.D. '12; October, 1950.

Lillian M. D'Espard, Graduate Nurse '05; May 5, 1955.

John Donaldson, PH.D. '14 (Political Science); June 2, 1955.

James Benjamin Grice, G. '30–'31 (Political Science); May 26, 1955.

Everette R. Hopkins, G. '21–'22 (Chemistry); April 6, 1955.

Dorothy Huebner (Mrs. John W.) Fertig, M.A. '38 (Psychology); June 27, 1955.

Florence Henrietta Fischer, G. '20–'21 (Political Economy); February 8, 1955.

William Lawrence Grimes, M.D. '10; July 7, 1951.

Peter Conover Hains, B.E. '94; February 5, 1955.

Cyril Christopher Hussey, M.D. '19; May 9, 1953.

James M. Krumm, McCoy '27–'30, '41–'42; August 19, 1955.

Frederick Wiessner Lipps, B.A. '22; June 29, 1955.

Oswald S. Lowsley, M.D. '12, FAC. '12–'13 (Anatomy); June 4, 1955.

Ernest Luther Morgan, M.D. '12; May 2, 1952.

Lorenzo S. Morgan, M.D. '04; June 10, 1955.

Robert Kemp Morton, G. '03–'04 (Political Science); August 23, 1954.

James Edward Mulligan, staff member ORO '55; July 22, 1955.

Agnes Gordon Murdoch, M.D. '06; June 27, 1955.

Lawrence Alexander Naylor, Arts '94–'97; June 1, 1955.

Elijah John Nichols, Jr., McCoy '41–'48; March 15, 1951.

Richard Henry Perkinson, PH.D. '36 (English); October 1, 1954.

David Sterrett Pindell, B.A. '95, B.E. '97; June 2, 1955.

Louise Crandall (Mrs. Russell L.) Poley, Graduate Dietician '34; April 26, 1955.

Grace Rawlings, Education '31–'35, McCoy '39–'40, '43–'44; August 11, 1955.

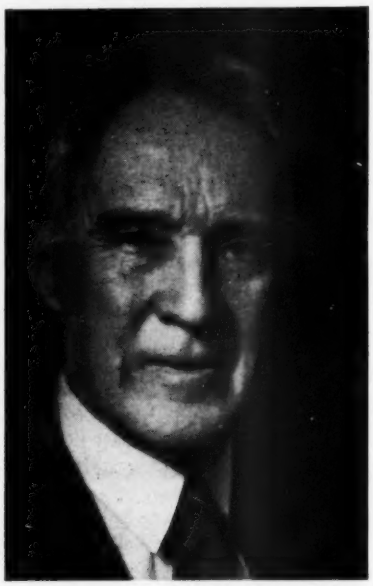
Henrietta Richardson (Mrs. C. Chapman) Rouse, Graduate Nurse '93; July 6, 1955.

Mary R. Riedel, B.S. '33; June 19, 1955.

William Seifriz, B.S. '16, PH.D. '20 (Botany); July 13, 1955.

Benjamin Franklin Sharpe, G. '91–'94 (Astronomy); July 16, 1955.

Charlotte W. Sipley, G. '30–'31 (Education); May 18, 1955.



GREYSTONE—CENTRAL NEWS

Robert W. Wood

Mary E. Shelton (Mrs. John H.) Snoke, G. '24–'27 (Political Economy); January 24, 1955.

Cora Dittman (Mrs. David) Spruks, Graduate Nurse '21; April 17, 1955.

Howard Coke Stewart, C.P.H. '25, DR.P.H. '31, FAC. '30–'31, '36–'37 (Epidemiology); May 27, 1955.

James Hough Stoller, G. '84–'85 (Biology); June 5, 1955.

Charles Henry Stubenrauch, Sr., B.A. '03, M.D. '07, FAC. '09–'10; June 21, 1955.

Benjamin Taylor Terry, M.D. '04; June 14, 1955.

Frank David Thomson, G. '92–'94 (History); March 14, 1955.

Thomas J. Tingley, B.A. '16; June 30, 1955.

Richard Etheredge Tome, Arts '18–'20; July 20, 1955.

Luther F. Vozel, assistant gynecologist in the outpatient department; August 10, 1955.

Anna Mary Warder, Graduate Nurse '35, head of obstetrical and gynecological nursing; July 23, 1955.

George Louis Wellington Weis, Engineering '13–'14; July 21, 1955.

Helen Wheeler, G. '20–'21 (Political Economy); June 14, 1955.

Morris Sheppard Wheeler, FAC. and House Staff '33–'34 (Psychiatry); February 4, 1953.

Robert W. Wood, G. '91–'92 (Chemistry), LL.D. '51 (Honorary), professor of experimental physics '01–'38, professor emeritus and research professor of physics; August 11, 1955.

Yi-Lin Mei, DR.P.H. '27; July 29, 1955.

Our Choices In South Asia

Continued from page 11

for them, this appears as a new form of imperialism and the whole purpose of the operation is undone. As Mr. Lester Pearson, of Canada, recently said, a conscious flaunting of superior know-how is only a modern version of the old holier-than-thou attitude.

Economic aid, which seems to us a generous and unselfish act, can easily appear to Asians in a more sinister light. Generosity is often harder to bear than blows.

We should for this reason be very careful not to disturb the admirable working of the Colombo Plan [a multilateral trade and economic development program which began among British Commonwealth nations and now includes all South Asian states], which has largely disarmed Asian suspicions and which includes every single noncommunist state of Asia. It is a matter for rejoicing that the U.S. is now a full partner in the Colombo Plan; I devoutly hope that the flow of American aid will be stepped up and that it will be channeled through the Colombo Plan and not through SEATO, which excludes India.

Despite the limits to the effectiveness of Western power, whether military or economic, nonetheless the immediate short-run choice before us in South and Southeast Asia is whether we are to draw a line somewhere against aggression and stick to it in the double sense that we will not ourselves transgress it and will resist to the utmost anyone else who does. (It was for this reason that I defended SEATO when it came up for debate in the House of Commons.)

If we don't make this first short-run choice there will be no other choices

for the West to make in Asia, for we shan't be there to make them. The landslide will have carried us away.

But if we make this first short-run choice, as we have done, we are at once faced with an incredibly difficult and complex long-term problem.

The loss of China to communism, which has caused our immediate difficulties, is only a symptom of the sickness of the West in Asia, not its fundamental cause. It is not just a diplomatic revolution or military reverse that has brought embarrassment; it is part of a tidal change that will overwhelm any Western Canutes that try to stem it by setting up their dollar or sterling thrones in front of it.

In the last resort it is men's minds that are the battlefield; and we must realize that, as things are, the mental and emotional terrain favors communism.

It was, I believe, Disraeli, who made the profound remark that Russia always turns its Asiatic face to Europe and its European face to Asia. To us Russia seems barbaric; but in Asia Russia appears as the model of modernity.

Communism appeals to Asians as a short-cut that can alone cope with abject poverty and shorten the galling lead enjoyed by the industrial powers of the West. It appears as the social system that is free of the color bar. It also offers the human satisfaction of participation in a proud and powerful community. Rooting for a nation to which one belongs and which enlarges one's self-esteem by winning victories—particularly over the West—can be a greater attraction than a hungry and ineffective choice between equally rapacious candidates in a free but corrupt election—which is often all that democracy can mean at the moment in some Asian countries.

In the last resort China went communist for the same reasons that led Japan into authoritarian capitalism. Russia in the twentieth century is a better model than was Prussia in the nineteenth of the material advantages you can, at any rate in the short run, derive from a monstrous deformation of Western civilization.

I do not mean that Asians are incapable of the desire for individual liberty. Many have shown that they regard true democracy as a high good. What I mean is that we must not be guilty of the liberal illusion that democracy as we know it is an absolute good to all men in all circumstances; that it needs only to be dangled before their eyes to be at once embraced by them. It is a subtle manifestation of an imperialist state of mind blandly to assume that everyone in a communist Asian state is a slave longing to throw off his chains and run into the arms of the West. Before you can lose your chains you have first to acquire them—and they can be quite a handy weapon for banging Westerners in the face.

Communism starts in Asia with the advantage that the very word "imperialism" has an anti-Western connotation. You may intellectually persuade an Asian that communism is the latterday version of Western imperialism; but he will still think of the Western democratic powers as imperialist, because they seem to be the immediate obstacles in the way of full independence.

Worse the devil you know than the devil you know not. Moreover it is Western people—whether Portuguese, French, British, German, or American—who have for centuries one after the other insulted Asians by coolly taking for granted their superiority over them. They have regarded as God-given the advantages that they owed to history.

It is not necessary today for a country to possess colonies for it to be regarded as imperialist in Asia; it is enough for it to be Western and to deploy its power in Asia. As America has discovered, it is the extent of its power rather than the number of its colonies that stamps it as imperialist. Every time an Asian country, even a communist one, worsts a Western nation, it strikes a chord in the Asian heart. Not even the most anti-communist Asian, whatever his feelings about the need to resist aggression, could resist a certain guilty feeling of pride when Asians killed Europeans in Korea.

The white man's burden has shifted on his back. Today it is a load of suspicion that he finds hard to cast off his shoulders.

The problem for the West in Asia is made none the easier by the fact that the two powers primarily concerned, the United States and the United Kingdom, tend to make different instinctive choices in South Asia. This is partly the result of history, partly of geography, partly of psychology.

For the U.S., the Far East is really the Far West—the opposite shore of a vast but shrinking ocean that seems to lie uncomfortably close to its own western front door. For Britain the Far East is very much the Far East—the terminus of a long, precarious, but vital line of communications that runs eastward from her shores. America tends to make a peripheral approach to the problems of strategy in Asia: it thinks of any move by Communist China as endangering the defense chain. British strategy is far more concerned with the realities of power and politics in and around the Indian Ocean than with minor shifts of power on the China coast. Britain's interest is to keep its lines open to India, Australia, and New Zealand and of course to maintain its bastion in Malaya. While America wants to keep communism out of the Pacific, Britain wants to keep it out of the Indian Ocean.

Emotion reinforces strategic considerations. G. F. Hudson once said that Americans yearn to be loved by China and Britons yearn to be loved by India. America's rigid strategy and stern refusal to recognize Peiping are colored by the psychological need for a substitute China in Formosa. Britain's approach to China is conditioned by the psychological need to pay high regard to India's views. That this is a persistent and paramount British interest is shown by the fact that both a Labour and a Conservative government have adopted the same policy about recognition of China, although other Commonwealth countries like Australia, New Zealand, Canada, and South Africa have so far taken the other view.

For like reasons Britain tends to overrate the chance of splitting Russia and China, while America underrates the consequence of a policy that positively drives them into one another's arms.

One of the prime tasks of the West in South and Southeast Asia must be to find an accommodation between British and American views. So long as these differ, this adds to the fundamental and structural weakness of the West.

What we must do is to work toward agreement in terms of the long-term choices before the West in South and Southeast Asia.

It follows, I hope logically, that the long-term choices before us are extremely limited. The West has a permanent rôle to play in Asia only if we

realize that we must choose between real and not imaginary alternatives—between alternatives that we cannot impose but which are imposed upon us.

The only way by which we can move from the defensive is by gaining a moral base for ourselves in Asia. Even to see how to set about this we must to the best of our ability enter into the Asian mind; that is to say, we must construct our policies in Asia on *their* logic, not ours.

This applies particularly to ideas of democracy. If we proceed on the simple idea that Western democracy is manifestly good, that communism is evil, and that everyone but a rascal or a poltroon must be on our side—well, this sort of political logic may work in regions of the world where Western democracy is part of the texture of social life, but in Asia it will be looking-glass logic. It will mean that we must regard the vast majority of Asians as rascals or poltroons—which will not give us a very large moral base to rest on.

THE attempt to divide the whole world into two camps and to force everyone to choose between them will produce the very opposite of the result we want in Asia. If we insist on treating everyone as a goat who is not a sheep, we may find a disconcertingly rapid increase in the Asian goat population. Even the attempt to create a single undifferentiated democratic bloc in Asia is short-sighted. Such an Asian bloc can only subsist on the doctrine of "Asia for the Asians"—a notion that must, in its nature, be anti-Western. The very idea of Asia as a distinct political and sociological entity is a Western creation; it has come into existence as an integral part of native movements that felt themselves akin only because they were united in the common aim of getting free from Western thralldom.

What we want in Asia is not a unified bloc, whether democratic or not, but national differentiation. We want all sorts of Asian nations, each going its own way, each proud of its own national differentiation. The only sure way to save Asia from communism is by turning against communism the even more potent force of nationalism. As long as there are nationalist forces in Asia that feel that it is Western power, either military or economic, that stands in their way, communism will be a danger. Frustrated nationalists will ally with the devil to achieve their aims; and they will find the wiles of the devil seductive. Nehru openly flirted with communism in his struggle for independence against Britain; now, as a national leader, he is a bitter opponent of communism in India.

The West must return to an earlier and more primitive version of liberal democracy. We must go back to the idea that national self-determination is the essential precondition and expression of individual liberty. In the nineteenth century neither America nor Britain worried over-much about what free nations would do with their freedom: we made the easy though often false assumption that they would adopt democracy. But we did firmly associate Western democracy with the force of nationalism, the most potent political emotion in the world.

We must do the same again in Asia. We must, of course, do our best to help Asian nations to be democratic; we need not be quite so simple-minded as we were in the nineteenth century. But, in order to do this, we must accept that democracy, when seen through Western

or through Asian eyes, may mean different things. We are thinking in terms of Western, not Asian, political logic if we get hot under the collar at the mere thought that some Asian nation may refuse to identify democracy with a militant, whole-hog anti-communist foreign policy.

IN Asia you can certainly be a good democrat without being pro-West; indeed, during this present epoch, it may well be that you cannot be a good Asian democrat if you are simply pro-West. A democrat must stand up for himself; and in Asia that means telling the Westerners from time to time where they get off.

An example of the way in which the West, through insistence upon its own logical categories, forfeits influence and effect in Asia is the tendency (which exists in Britain but is a good deal stronger in America) to decry and underrate Nehru. His policies, or at least his speeches, are sometimes irritating and erratic, but he is a great moral force in Asia. Hundreds of millions listen to him, model themselves on him, who turn a deaf ear to the siren calls of the West—however high-pressure the salesmanship behind them. And Nehru is a genuine democrat who detests the practice of communism and who, incidentally, understands admirably the British type of paraliamentary democracy.

If we are to distinguish between different versions of genuine democracy, we must go further and make the difficult admission that there are different types of neutralism and not all are equally bad.

Indian neutralism, for instance, is motivated neither by fear nor by secret sympathy with communism. It may appear short-sighted to us; it may even *be* short-sighted. But we must accept as a fact that it can appear as a logical and positive policy to intelligent and moral men. It should not really be so difficult for us to understand this when we recall the neutralism of Britain at the time of Munich or America's neutralism for a good while longer at a time when Western democracy was faced not as today by potential but by actual military menace.

IF we accept the policy of setting the force of nationalism against communism in Asia, this may involve us in a number of awkward situations and decisions. We may have to yield strategic bastions, or at least expose them to risk. But strategy is the handmaid of politics, both in war and peace. We cannot divorce the two, as military men are often tempted to do. Even great military power is ineffective without the moral adherence of the people on the spot to your cause—and we still lack that in Asia. When we consider the defense lines drawn up by strategists who know everything about logistics, we must remember that no strategic line in Asia—or for that matter anywhere else—has any long-term strength unless it is buttressed by the will of the peoples.

The West will not be strong in Asia until we have found a line where further communist aggression appalls the moral conscience of Asia. We have perhaps got something like this in Indochina, but we have not yet got it in the Formosa Strait. Until we have it everywhere in Asia, we will lack the moral

basis without which military strength is a temporary and wasting asset. Once we can find moral readiness to ally at need with the tremendous power of the West, we will be able, should in fact communist aggression continue, to transform SEATO into a NATO-type alliance. But we cannot do that until there are true nations in Asia that are more scared of losing their independence to communist aggression or infiltration than of never quite gaining it at all owing to the suffocating nature of Western support.

WE have the difficult task of conducting simultaneously a withdrawal and a holding operation. As I have said, we must for the time being use military strength to draw a line somewhere. A precipitate withdrawal would leave a fatal vacuum; and dictators, like nature, abhor a vacuum.

The real choices before us relate to the coördination of the filling-up of this vacuum with a retraction of our immediate power. Communism will be revealed to Asian minds as the real and immediate imperialist menace only if we withdraw what Asians regard as Western imperialism. We must prepare for our withdrawal by building up the new nations of Asia by military and economic aid and training. But we must find the way to do this that will create confidence in our honest respect for national independence. We must leave not puppets behind us but real Asian patriots—and they will show their patriotism by having their own ideas about democracy and neutralism.

Asia will express its ideas in symbols of its own choice, not of ours, and it will follow men who personalize and embody these symbols.

THIS whole operation will be difficult for all of us and particularly for America. It involves in the end the abandonment of Formosa and the recognition of the Peiping government. Britain has also had, and will have, difficult decisions to make. It has firmly identified itself with Asian nationalism in India, Pakistan, Ceylon, and Burma. We were at that time encouraged in this course by the pressure of public opinion in America. We will, as quickly as the military situation and the development of self-government allows, follow the same policy in Malaya. It is because we are trusted over this that our present position in Malaya has not been denounced as imperialist by Nehru and other democratic Asian leaders.

To sum up in two phrases the policy choices before the Western world in South and Southeast Asia, as I see them:

First, it is, on balance, better to run military than political risks in Asia. Military risks can be covered and reinsured; political risks may be fatal.

Secondly, we have the choice between Nehru and Mao Tse-tung. Or rather that is the choice before Asia that is imposed upon us. Asians will adhere to one or the other as the personalization of the two ways to independence that lie before them.

We, too, must choose between Nehru and Mao Tse-tung—unless we want to be left with no choices in Asia at all.

The Hurricanes In Your Future

Continued from page 7

Meteorologists do not know why this change has taken place. We know that climate is changing; that significant changes in temperature and atmospheric circulation patterns have occurred even within the last fifty years. It has been suggested that the more westerly path of Atlantic hurricanes is associated climatically with an increase in the frequency of southerly winds along the east coast of the United States. But what causes these changes—what causes climate to vary from decade to decade and century to century—no one can say with certainty. Nor can we say whether the changes of the last few years will intensify, remain with us, or reverse their drift during the decades ahead. All we can say is that at present we seem to be living in a period in which the boundary of "hurricane country" has shifted northward from the Carolinas to Maine.

THIS being the case, it becomes important for every citizen to learn something about the origin and nature of these phenomenal storms. Hurricanes develop over the tropical oceans, usually between seven and thirty degrees north or south latitude. These are the latitudes of the trade winds, the broad currents of air which move steadily from east-northeast in the northern hemisphere and from east-southeast in the southern hemisphere. In these regions it is rare to observe the occurrence of high and low pressure centers, a feature so characteristic of our middle-latitude weather. Regions of low barometric pressure when they do form in the tropics are originally small, often less than a hundred miles in diameter, and their winds show little organized spinning motion. However, even these weak "tropical disturbances" are typically centers of squalliness and bad weather. The effect of the earth's rotation is small, and air tends to flow inward towards lower pressure where it rises, forming shower or thunderstorm (cumulonimbus) clouds. These regions of squally weather are the precursors of hurricanes, or typhoons as they are called in the western Pacific.

Even though the occurrence of tropical disturbances is comparatively rare, by no means are all that do form destined to become mature hurricanes. Many regions of weak low pressure never develop the pronounced spinning motion characteristic of cyclones: counter-clockwise in the northern hemisphere and clockwise in the southern hemisphere. These "tropical depressions" may move from east to west in the main stream of the trade winds, and then may disappear completely. Other disturbances may intensify. Due to the small but continuously applied deflecting force set up by the earth's rotation, these systems may develop a strong cyclonic spin, their peripheral winds possibly reaching gale force and their accompanying weather becoming more severe. Yet many of these "tropical storms"—as the more severe disturbances are called—may also disappear without achieving full hurricane status.

TO meteorologists, the hurricane or typhoon is a particular brand of geophysical animal. First, it must develop from a true tropical storm; and second, wind speeds in excess of seventy-five miles per hour (so-called "hurricane winds") must occur. The first requirement is a necessary one, since winds of hurricane speed occasionally are observed in middle latitudes in association with storms that are entirely different from hurricanes in their region of occurrence, season of formation, and method of genesis. The requirement that winds be in excess of seventy-five miles per hour is arbitrary and has been introduced primarily for convenience in

classification. This lower limit has some physical significance, however, since storms of this approximate intensity usually begin to develop the characteristics of the mature hurricane, such as the "eye" and the banded structure described below.

The early life-cycle of a hurricane—from weak tropical disturbance, to tropical storm, to full-blown hurricane—is often not characterized by a steady, gradual growth. Instead, the development of a hurricane seems to require certain favorable environmental conditions, which may have a remarkable, catalytic effect. Thus, a weak tropical disturbance, which has drifted slowly westward across the North Atlantic from the African coast without sign of intensification, may within a short twenty-four to forty-eight hours grow into a raging West Indian hurricane. The combinations of circumstances which stimulate this development are known to meteorologists only empirically. Studying the patterns of tropical air movement on his weather charts, the meteorologist is able to isolate "danger areas" within which hurricanes are particularly likely to form. During the hurricane season—which in the North Atlantic extends roughly from June through November—these areas are carefully watched for signs of a developing storm.

CLIMATOLOGICALLY there are three major areas of hurricane formation in the North Atlantic. The first is in the vicinity of the Cape Verde Islands, off the African coast; the second is in the North Atlantic just east of the Lesser Antilles; and the third is in the western Caribbean, north of Panama. Other areas of lesser importance are the Gulf of Mexico and the Atlantic Ocean just north of the West Indies.

The Cape Verde hurricanes are worthy of particular comment. The majority of these storms travel westward across the Atlantic under the influence of the trade winds, before recurving northward and northeastward. Some reach the coast of the United States, and these hurricanes—grown strong and vicious during their westward movement—include most of our "great" hurricanes and are responsible for many of our worst disasters. They include the great hurricane of August, 1893, which devastated the coasts of Georgia and North Carolina, causing hundreds of deaths, and curved northeastward spreading ruin and destruction as far north as the New England coast; the storm of September, 1906, which smashed inland in the vicinity of Pensacola; the great Texas hurricane of August, 1915, which submerged much of Galveston, cost 275 lives, and dealt damages of over fifty million dollars; the hurricane of September, 1926, whose eye passed directly over Miami, where the wind velocity for two minutes reached 138 miles per hour and where over one hundred lives were lost; the "San Felipe" hurricane of 1928—one of the most tremendous on record—which crossed Puerto Rico and then moved into Florida, where about eighteen hundred people perished in the Lake Okeechobee area; and the memorable New England hurricane of September, 1938, which caused almost half a billion dollars in damages and about five hundred deaths.

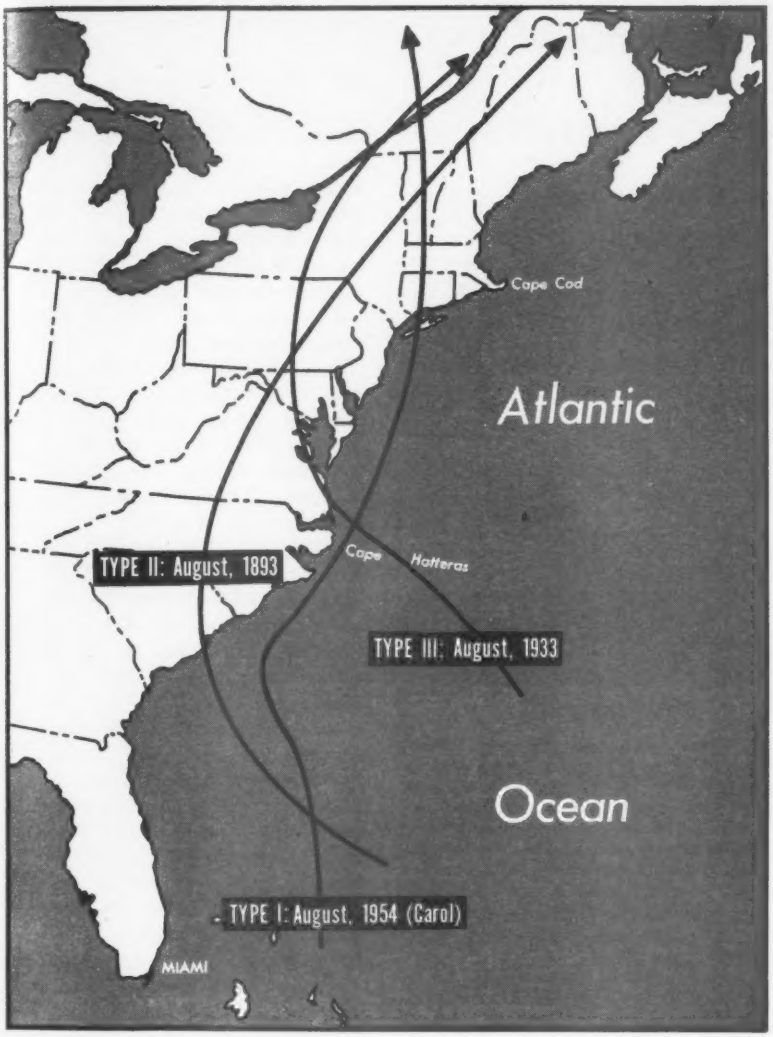
Not every Cape Verde hurricane is of extraordinary intensity, however; and some which originate in the west Atlantic rival the greatest Cape Verde storms in violence, if not in size. A memorable example is the "Labor Day Hurricane" of September, 1935. This hurricane, which recorded the lowest sea-level barometer reading ever observed in the western hemisphere (26.35 inches), was first observed north of Haiti. It smashed across the Florida Keys on September 2 and caused about four hundred deaths, including more than two hundred veterans who were being evacuated from relief camps on the Keys. There have been other great hurricanes from the Caribbean; but for size, intensity, and just plain cussedness, the Cape Verde storms are exceptional.

THE well developed storm is a roughly circular mass of air, usually one to five hundred miles in radius, which spins counterclockwise (cyclonically) in the northern hemisphere. Wind speeds increase as the center of the storm approaches, with hurricane velocities being encountered as far as two hundred miles from the eye in extreme cases. Winds continue to increase, attaining velocities up to 150 miles per hour in severe storms, until the eye is reached. The eye of the storm is usually five to twenty miles in diameter. Here the precipitation suddenly ceases. The sky may clear with sun or stars shining brightly, although this is not characteristic of dying storms (such as Connie, 1955). The wind abruptly weakens, becomes gusty, and near the exact center may entirely cease. After the fury of the preceding storm, the silence is usually described as sinister or oppressive. Rightly so, since the quiet is inevitably followed a few minutes or at most an hour or two later by a sudden renewal of the storm's fury as the opposite edge of the eye is reached.

Some of the most important attributes of the hurricane are related not to its radial structure but its asymmetry. Thus, the strongest winds are generally found to the right of the storm, if the observer faces in the direction in which the hurricane center is moving. The reason for this is simple. The hurricane may be crudely approximated as a rotating disk of air. However, in computing wind velocities the motion of the disk as a whole must be added to the rotational or spinning motion. Thus, if a storm has rotational velocities of about 110 miles per hour near the eye, and if the hurricane is moving northward at a speed of about twenty miles per hour, the winds to the east of the storm center will be about 130 miles per hour while those to the west will be about ninety miles per hour. Thus, a storm passing to the west of Baltimore, say, (as Hazel did in 1954) might be expected to cause the greatest damage, other things being equal. As hurricanes move northward and northeastward out of the tropics the speed of the storm as a whole generally increases, although the rate of rotation or spin usually declines. Therefore, the right-to-left asymmetry of the wind field is particularly important when a storm has moved into middle latitudes.

It is also generally true that winds and precipitation to the south of the storm center are weaker than to the north. This was evident in Baltimore in August of this year, when the remnants of Hurricane Connie passed almost over the city. The greatest damage from this northward moving storm was east and north of Connie's center.

DAMAGE from hurricanes is also most severe along coastal areas. This is due in part to the fact that hurricanes weaken and eventually die as they move inland. (The winds in Hurricane Hazel were 130–150 miles per hour along the Carolina coast, but reached a maximum of about eighty-five miles



RICHARD HSIEH

How hurricanes strike the East Coast

per hour in the Maryland-Delaware area.) Another factor, however, is the tremendous damage due to high water as the hurricane's winds drive the ocean landward. In some cases a gradual increase in sea level will occur; in others, much of the rise may come in one or more tremendous surges or "storm waves." Fortunately, storm waves in the United States seldom result in a sudden rise in sea level of more than a few feet. We have nothing to rival the storm waves of the Bay of Bengal, where in the Hooghly Disaster of 1737 a storm wave forty feet in height drowned over three hundred thousand people. Nevertheless during a severe hurricane in the United States the total rise in sea level may easily be seven to fifteen feet. Added to this, of course, is the unusually heavy wave action which is capable in itself of inflicting tremendous havoc.

Damage due to waves and high water is greatest when the hurricane strikes the coast approximately at right angles. In this case the strongest winds, to the right of the hurricane's path, blow directly toward land. To the left of the path winds are generally offshore, and damage is comparatively slight.

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classification. This lower limit has some physical significance, however, since storms of this approximate intensity usually begin to develop the characteristics of the mature hurricane, such as the "eye" and the banded structure described below.

The early life-cycle of a hurricane—from weak tropical disturbance, to tropical storm, to full-blown hurricane—is often not characterized by a steady, gradual growth. Instead, the development of a hurricane seems to require certain favorable environmental conditions, which may have a remarkable, catalytic effect. Thus, a weak tropical disturbance, which has drifted slowly westward across the North Atlantic from the African coast without sign of intensification, may within a short twenty-four to forty-eight hours grow into a raging West Indian hurricane. The combinations of circumstances which stimulate this development are known to meteorologists only empirically. Studying the patterns of tropical air movement on his weather charts, the meteorologist is able to isolate "danger areas" within which hurricanes are particularly likely to form. During the hurricane season—which in the North Atlantic extends roughly from June through November—these areas are carefully watched for signs of a developing storm.

CLIMATOLOGICALLY there are three major areas of hurricane formation in the North Atlantic. The first is in the vicinity of the Cape Verde Islands, off the African coast; the second is in the North Atlantic just east of the Lesser Antilles; and the third is in the western Caribbean, north of Panama. Other areas of lesser importance are the Gulf of Mexico and the Atlantic Ocean just north of the West Indies.

The Cape Verde hurricanes are worthy of particular comment. The majority of these storms travel westward across the Atlantic under the influence of the trade winds, before recurving northward and northeastward. Some reach the coast of the United States, and these hurricanes—grown strong and vicious during their westward movement—include most of our "great" hurricanes and are responsible for many of our worst disasters. They include the great hurricane of August, 1893, which devastated the coasts of Georgia and North Carolina, causing hundreds of deaths, and curved northeastward spreading ruin and destruction as far north as the New England coast; the storm of September, 1906, which smashed inland in the vicinity of Pensacola; the great Texas hurricane of August, 1915, which submerged much of Galveston, cost 275 lives, and dealt damages of over fifty million dollars; the hurricane of September, 1926, whose eye passed directly over Miami, where the wind velocity for two minutes reached 138 miles per hour and where over one hundred lives were lost; the "San Felipe" hurricane of 1928—one of the most tremendous on record—which crossed Puerto Rico and then moved into Florida, where about eighteen hundred people perished in the Lake Okeechobee area; and the memorable New England hurricane of September, 1938, which caused almost half a billion dollars in damages and about five hundred deaths.

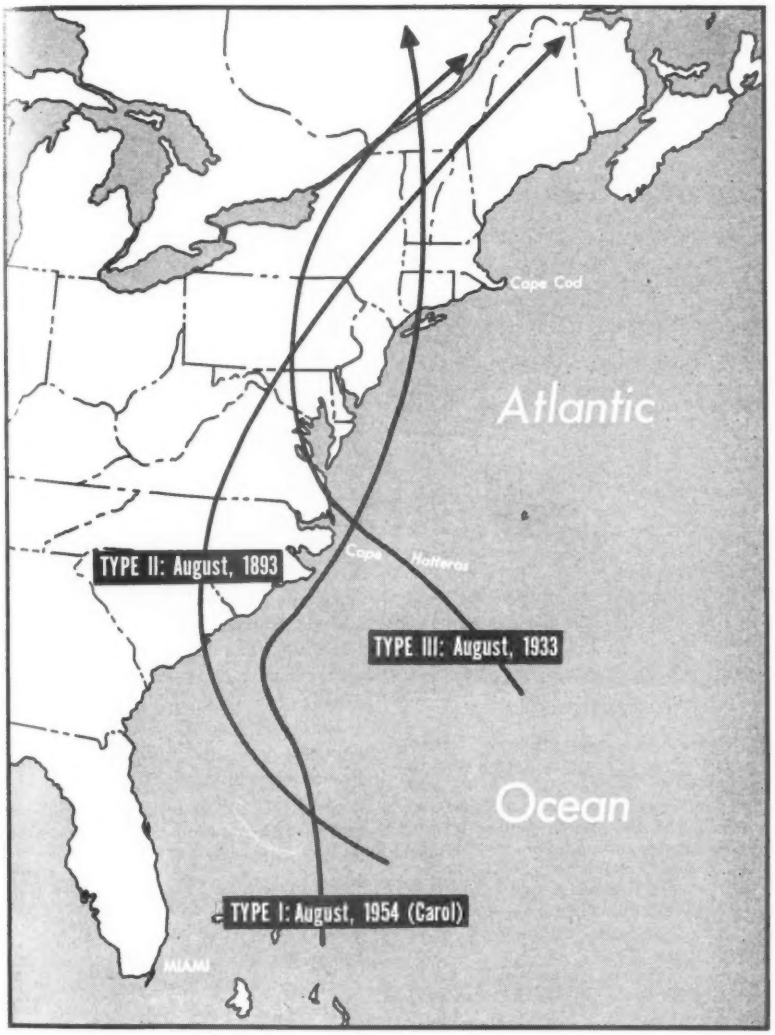
Not every Cape Verde hurricane is of extraordinary intensity, however; and some which originate in the west Atlantic rival the greatest Cape Verde storms in violence, if not in size. A memorable example is the "Labor Day Hurricane" of September, 1935. This hurricane, which recorded the lowest sea-level barometer reading ever observed in the western hemisphere (26.35 inches), was first observed north of Haiti. It smashed across the Florida Keys on September 2 and caused about four hundred deaths, including more than two hundred veterans who were being evacuated from relief camps on the Keys. There have been other great hurricanes from the Caribbean; but for size, intensity, and just plain cussedness, the Cape Verde storms are exceptional.

THE well developed storm is a roughly circular mass of air, usually one to five hundred miles in radius, which spins counterclockwise (cyclonically) in the northern hemisphere. Wind speeds increase as the center of the storm approaches, with hurricane velocities being encountered as far as two hundred miles from the eye in extreme cases. Winds continue to increase, attaining velocities up to 150 miles per hour in severe storms, until the eye is reached. The eye of the storm is usually five to twenty miles in diameter. Here the precipitation suddenly ceases. The sky may clear with sun or stars shining brightly, although this is not characteristic of dying storms (such as Connie, 1955). The wind abruptly weakens, becomes gusty, and near the exact center may entirely cease. After the fury of the preceding storm, the silence is usually described as sinister or oppressive. Rightly so, since the quiet is inevitably followed a few minutes or at most an hour or two later by a sudden renewal of the storm's fury as the opposite edge of the eye is reached.

Some of the most important attributes of the hurricane are related not to its radial structure but its asymmetry. Thus, the strongest winds are generally found to the right of the storm, if the observer faces in the direction in which the hurricane center is moving. The reason for this is simple. The hurricane may be crudely approximated as a rotating disk of air. However, in computing wind velocities the motion of the disk as a whole must be added to the rotational or spinning motion. Thus, if a storm has rotational velocities of about 110 miles per hour near the eye, and if the hurricane is moving northward at a speed of about twenty miles per hour, the winds to the east of the storm center will be about 130 miles per hour while those to the west will be about ninety miles per hour. Thus, a storm passing to the west of Baltimore, say, (as Hazel did in 1954) might be expected to cause the greatest damage, other things being equal. As hurricanes move northward and northeastward out of the tropics the speed of the storm as a whole generally increases, although the rate of rotation or spin usually declines. Therefore, the right-to-left asymmetry of the wind field is particularly important when a storm has moved into middle latitudes.

It is also generally true that winds and precipitation to the south of the storm center are weaker than to the north. This was evident in Baltimore in August of this year, when the remnants of Hurricane Connie passed almost over the city. The greatest damage from this northward moving storm was east and north of Connie's center.

DAMAGE from hurricanes is also most severe along coastal areas. This is due in part to the fact that hurricanes weaken and eventually die as they move inland. (The winds in Hurricane Hazel were 130–150 miles per hour along the Carolina coast, but reached a maximum of about eighty-five miles



RICHARD HSIEH

How hurricanes strike the East Coast

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At Johns Hopkins

FROM SEPTEMBER 25 TO OCTOBER 31

REGISTRATION AND CLASSES

HOMEWOOD SCHOOLS (except McCoy College) ORIENTATION week for new students began Wednesday, Sept. 21 and continues through Wednesday, Sept. 28. REGISTRATION—For undergraduate students: Monday, Sept. 26 and Wednesday, Sept. 28; for full-time graduate students: Tuesday, Sept. 27; for part-time graduate students: Wednesday, Sept. 28. INSTRUCTION BEGINS on Thursday, Sept. 29.

MCCOY COLLEGE (providing educational opportunities for part-time students at late-afternoon, evening, and Saturday-morning hours)—REGISTRATION on Monday and Tuesday, Sept. 26–27 (Shriver Hall, from 5:30 to 8:30 p.m.). INSTRUCTION BEGINS on Thursday, Sept. 29.

SCHOOL OF MEDICINE—REGISTRATION on Friday, Sept. 30. INSTRUCTION BEGINS Monday, Oct. 3.

SCHOOL OF NURSING—REGISTRATION for first-year students on the 32-month program was Monday, Sept. 19; for students on the 36-month program, Monday, Sept. 26. CONVOCATION on Friday, Sept. 30 at 8 p.m. in Hurd Hall; Alice Sundberg, president of the Maryland League for Nursing and director of the Bureau of Public Health Nursing, will speak.

SCHOOL OF HYGIENE AND PUBLIC HEALTH—REGISTRATION from Thursday to Saturday, Sept. 22–24. INSTRUCTION BEGINS on Thursday, Sept. 29.

SCHOOL OF ADVANCED INTERNATIONAL STUDIES—REGISTRATION on Monday, Sept. 26. ORIENTATION LECTURES and registration conferences from Tuesday through Friday, Sept. 27–30. INSTRUCTION BEGINS on Monday, Oct. 3.

ALUMNI MEETING

MEDICAL ALUMNI—A Johns Hopkins dinner will be held in conjunction with the conference of the Southern Medical Association in Houston (Tuesday, Nov. 15 at the Shamrock Hotel).

SPECIAL EVENTS

CHRISTOPHER COLUMBUS—An exhibition of books and coins dealing with the explorer and his voyages; the first in a new series of exhibitions open to the public without charge (Monday, Oct. 3 through Friday, Oct. 21, 9 a.m. to 5 p.m. at Evergreen House, 4545 N. Charles Street; closed Saturdays and Sundays).

WOMAN'S CLINIC—Renovated areas will be officially opened on Friday, Sept. 30.

VARSITY SPORTS

NOTE—No admission fee is charged for Johns Hopkins home athletic events, but an admission card is required. Persons who wish to attend games during the coming University year may obtain a card without charge by sending a stamped, self-addressed envelope to the Department of Physical Education, the Johns Hopkins University, Baltimore 18, Md. Alumni of the University should address their requests for admission cards to the Alumni Relations Office, the Johns Hopkins University, Baltimore 18, Md.

FOOTBALL—Johns Hopkins vs. FRANKLIN AND MARSHALL on Saturday, Oct. 1 (away); CARNEGIE TECH on Saturday, Oct. 8 (Homewood Field at 2 p.m.); HAMPDEN-SYDNEY on Saturday, Oct. 15 (away); RANDOLPH-MACON on Saturday, Oct. 22 (Homewood Field at 2 p.m.); DREXEL on Saturday, Oct. 29 (away).

SOCCER—Johns Hopkins vs. GETTYSBURG on Saturday, Oct. 8 (Homewood at 12 noon); TOWSON TEACHERS on Saturday, Oct. 15 (away); FRANKLIN AND MARSHALL on Saturday, Oct. 22 (Homewood at 12 noon); DREXEL on Saturday, Oct. 29 (away).

CROSS COUNTRY—Johns Hopkins vs. LOYOLA on Tuesday, Oct. 18 (away); CATHOLIC on Saturday, Oct. 22 (Homewood at 2 p.m.); DELAWARE on Friday, Oct. 28 (away).

TELEVISION

TOMORROW—The Johns Hopkins University's television program has resumed its coast-to-coast broadcasts for the fall (Saturdays at 10 p.m., Eastern Time, over stations of the American Broadcasting Company network; in some cities the program is seen via delayed telecast, in which case readers should consult their local newspaper listings for day and time).

LECTURES

PHYSIOLOGY OF THE ENDOMETRIUM—A symposium led by Cecilia Lutwak-Mann of the Moltino Institute in Cambridge, England (Friday, Oct. 7 at 8 p.m. in New Auditorium).

HERTER LECTURES—John C. Eccles, professor of physiology at Australian National University, will speak on "The Motor Neurone and Excitatory Synaptic Action," "Inhibitory Synaptic Action," and "Pathways and Transmitter Substances in the Central Nervous System" (Monday, Tuesday, and Wednesday, Oct. 10–12 at 5 p.m. in Hurd Hall).

The Hurricanes In Your Future

Continued from page 31

ington, represents just about the most unfortunate combination of circumstances it is possible to imagine. Southeast winds of hurricane intensity would cause record high water in the Bay, and unprecedented storm damage could be inflicted.

Only one hurricane of this approximate nature has been recorded: the storm of August, 1933, the track of which is shown on the map. In Maryland alone, damage was estimated at seventeen million dollars. The tide at Norfolk rose seven feet above normal, flooding much of the downtown section. Yet the maximum recorded wind was sixty-eight miles an hour at Cape Henry, and the hurricane had already rapidly diminished in intensity by the time its center had moved to the vicinity of Washington, D. C.

It is staggering to assess the probable damage had this storm been of an intensity comparable to some of the great Cape Verde hurricanes. Should one of these giants of the sea follow in the footsteps of the 1933 storm, Marylanders would be momentarily stripped of the buffer states to the south and Maryland's beaches and towns would be exposed to sea, wind, and rain the like of which has not been experienced since the Colony was settled.

METEOROLOGISTS can only hope and pray that this is not the hurricane in your future. Yet should such a day arrive, you would not be in the unenviable position of the residents of the Texas coast in 1915 or of Connecticut in 1938. The expanded hurricane warning service of the U. S. Weather Bureau, backed by hurricane reconnaissance squadrons of the armed services, would provide ample notice of the impending storm. The orderly evacuation of coastal areas, and other routine preparations, would hold loss of life and property to a minimum. More cannot be done until the day—no doubt far in the future—when man will be able to control his environment, and even the greatest of hurricanes can be prevented or turned from its normal path of destruction.

BLACK STAR

NEXT MONTH

✶ The problems of mass transportation are plaguing cities from one end of the country to the other (*in the photograph above:* St. Louis), and planners are desperately searching for workable solutions. Next month in The Johns Hopkins Magazine, a discussion of the transportation question and some possible answers to it.

✶ The problems of communication between scientists and the public are, with the increasing complexity of research, becoming greater than ever. In next month's issue, a newspaper reporter who has wrestled with such problems presents his views of *why* the public must be kept informed and *how* scientists and reporters, between them, can do the job.

THE JOHNS HOPKINS MAGAZINE

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To every one of us, the direct and personal benefit of medical teaching, research, and healing is immeasurable. To help strengthen the free institutions which make it possible is one of the surest investments in his own welfare that any man can make.

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